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Newswee

MARCH 11, 2016 / VOL.166 / NO.10



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How the Jewish ultra-Orthodox school system muzzles survivors of child abuse and protects the criminals who prey on them. by Elijah Wolfson

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GREECE

Gasping for Solutions

Idomeni, Greece—
Iraqi and Syrian
refugees recover after
Macedonian police
fired tear gas at them
on February 29. The
men, women and children, many of whom
are fleeing war and
human rights abuses,
tore down a barbed
wire fence along the
Greek border. Over
the past year, Macedonia and its neighbors
have built fences to
stop the influx of more
than a million refugees passing through
on their way to Germany. In recent days,
Macedonia has barred
Afghans from entering
and imposed stringent
document controls
on Syrians and Iraqis,
drastically slowing the
flow. Roughly 7,000
refugees are now
struck on the Greek
side of the border,
living in squalor.

LOUISA GOULIAMAKI





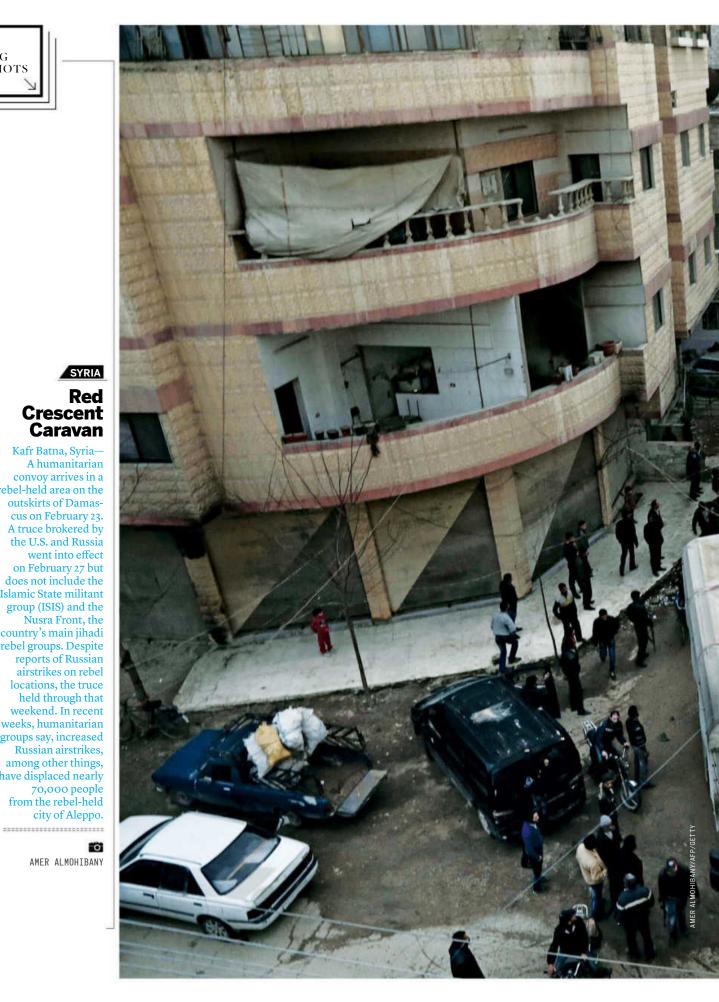


SYRIA

Red Crescent Caravan

Kafr Batna, Syria— A humanitarian convoy arrives in a rebel-held area on the outskirts of Damascus on February 23. A truce brokered by the U.S. and Russia went into effect on February 27 but does not include the Islamic State militant group (ISIS) and the Nusra Front, the country's main jihadi rebel groups. Despite reports of Russian airstrikes on rebel locations, the truce held through that weekend. In recent weeks, humanitarian groups say, increased
Russian airstrikes,
among other things,
have displaced nearly
70,000 people
from the rebel-held
city of Aleppo.

AMER ALMOHIBANY







IRAN

Morning in Iran?

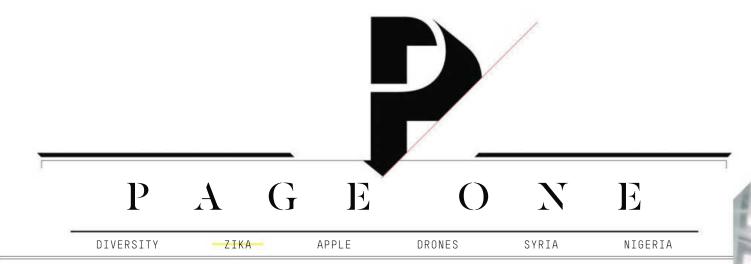
Tehran, Iran-Cler-

ics fill out ballots at a polling station on February 26. President Hassan Rouhani's reformist allies won a landslide victory in Iran's parliamentary elections, which ousted hard-liners from the Assembly of Experts, the body tasked with selecting the nation's next supreme leader. The results were a victory for Rouhani, who championed the nuclear deal with the United States, and analysts say the election could mark a turning point for Iran, where roughly 60 percent of the population is under 30. ------

AHMAD HALABISAZ







THE ZIKA HUNTERS

How a small team of Brazilian doctors convinced the world to stop ignoring the potentially deadly disease

SATURDAY, FEBRUARY 13, 2016, was D-Day in Brazil, the launch of the most important battle yet in the war against Aedes aegypti, the mosquito that transmits the viruses that cause yellow fever, dengue, chikungunya and, most pressing today, Zika. Armed with insecticides and leaflets, and accompanied by thousands of soldiers, the Brazilian government-including President Dilma Rousseff and almost all the ministers-took to the streets to convince people to do everything they could to rid their homes of the mosquito. The country needed to do in a few months what it has not been able to accomplish in the 30-plus years since the first case of dengue, a potentially lethal, flu-like illness, was registered in Brazil in 1981: close ranks against the vector.

Aedes aegypti is endemic in Brazil—the blood-sucking insect is found in almost all of the more than 5,000 counties in the country. This one species of mosquito is responsible for Brazil's annual epidemic of dengue that kills hundreds and sometimes thousands of people.

Brazilians have learned to live with dengue, but in the first months of 2015 infectious disease experts began to see what they believed was a new mosquito-borne illness. It tended to cause flu-like symptoms, a light fever and a pinkish rash that disappeared in a day or two. Most local health care workers were treating it as though it were dengue. But when Dr. Kleber Luz, an infectious disease expert based in Natal, the capital of the state of Rio Grande do Norte, looked at the symptoms patients were presenting with, he quickly suspected it was not dengue. He called up a colleague, Dr. Carlos Brito, a researcher at the Osvaldo Cruz Foundation (Fiocruz) in Pernambuco, one of Brazil's most prominent infectious disease institutions. Its specialty: arboviruses, the viruses transmitted by mosquitoes, ticks or other arthropods, including dengue, yellow fever and West Nile. "We collected more than 500 samples, and we insisted that it was not dengue, that it was something urgent and new,' says Luz. After ruling out other options, the two

BY LIZ BRAGA



A FINE MESH:
Municipal health
workers in Cali,
Colombia, delivered mosquito
nets and guppy
fishbowls to
pregnant women
to protect them
from against the
Aedes aegypti.



experts concluded it had to be Zika.

Zika has been known for decades in Africa and parts of Asia, but it had never spread in South America, so the doctors' conclusion was met with distrust. The Ministry of Health was contacted, but the Brazilian government wasn't convinced. Whatever was going around had no dangerous symptoms or long-lasting effects, and people weren't dying. So the government chose not to implement mandatory reporting for the infection, and when the summer of 2015 ended, so did any worries about Zika. "There was enormous resistance to the idea that it could be Zika. Health authorities did not believe Zika would come to Brazil," says Luz. "They underestimate the speed diseases spread around the world these days." Frustrated, the doctors decided to form their own group to study the virus.

THE FIRST SIGNS that Brazil was facing a terrifying wave of birth defects came in August 2015, when neuropediatrician Vanessa van der Linden was called in for a consultation in Recife. A woman had just given birth to twin boys; one had a severe case of congenital microcephaly, which

results in an abnormally small head that compromises cognitive function. The doctors could not find a cause for it. "It was a private hospital, so I could investigate all the possible causes and do different kinds of tests," says van der Linden. "But nothing showed up, Something was not right there, but I could not find what it was." At the time, it seemed to be an extraordinary occurrence—after all, it was only one baby, a rare case.

But two weeks later, during her regular rounds, van der Linden found three more babies with microcephaly. And in the next week, two more. "I called my mother, who is also a neuropediatrician, and she had seven cases. It could not be a coincidence," says van der Linden. In just two weeks, the doctor encountered more than 15 cases of microcephaly, more than would normally be found in a whole year. At one point, van der Linden says, "we had three cases in one night, when we would normally pass through four months without a single case. We had to investigate."

Van der Linden was the first doctor to raise the alarm. She reached out to the Pernambuco Health Department. The authorities there searched the local hospitals and concluded that van der Linden

THE PLAGUE YEAR: Mothers and their infants born with microcephaly gathered recently at a health care clinic in Recife, Brazil.

was right: The registered cases of microcephaly were much higher than the year before, and none seemed to be due to the more common causes of the illness, such as rubella, cytomegalovirus, toxoplasmosis, HIV or parvovirus. The Ministry of Health in Brasília was informed. Its response was to call in a team of one: Carlos Brito.

Brito started simply. He asked questions, interviewed dozens of mothers, some as young as 14, who had recently given birth to babies with microcephaly so severe that the infants had constant seizures. "It was a very painful and distressing time," says Brito. "What could we say to them if we did not know exactly what was happening? We had to find an answer, and fast."

After a few days of research, the doctor developed a theory: The microcephaly could be caused by the Zika virus. Brito had the evidence. The mothers were of all different ages, were not using similar medications and, perhaps most important, they came from very different places. "The dispersal was too extensive," says Brito. "It could not be an outbreak caused by a disease transmitted by saliva, such as rubella, or a sudden decline in immunity that would allow the spread of cytomegalovirus. It needed a vector." Every mother tested negative for the common causes of the illness, and every one had experienced the Zika symptoms of a rash and a fever during their first trimester, which coincided exactly with the early 2015 Zika outbreak.

THE FEAR OF being right quarreled in Brito's mind with the fear of being wrong. If it was Zika, there was the unimaginable potential that microcephaly could become as widespread as the common cold. *Aedes aegypti* is in every city in every part of Brazil, and for 30 years the country had tried—and failed—to control the pest. But if Brito was wrong, he could cause a panic and further delay the research needed to unearth the true cause of the microcephaly outburst.

Brito called his colleague, Luz, to find out if he was seeing the same pattern in Rio Grande do Norte, where the first cases of Zika had been registered the previous year. "In 12 hours, we found 11 cases," says Luz. "And the time of the pregnancy could be traced to the beginning of the Zika outbreak." Still, the doctors could not find proof that the virus had infected any of the babies. Symptoms of Zika normally disappear after one or two days. The virus leaves no trace in the body except antibodies, the unique proteins organisms produce to fight an infectious disease, and at the time there was no test that could find the presence of the antibodies in blood samples from either mother or baby.



When news began to spread that there might be a link between Zika and microcephaly, scientists through Brazil searched for signs in affected newborns. In Pernambuco, for example, the scientists at Fiocruz were applying a method called polymerase chain reaction to amplify traces of viral DNA in the hopes of locating Zika DNA remnants in the affected babies, but without success.

The hunt was fruitless until a month later. Dr. Adriana Melo was treating two pregnant women with unborn babies who, in the womb, appeared to have abnormally small heads. Both fetuses also had stunted cerebellums (a part of the brain that controls the muscles, hearing and eyesight), not usually a symptom connected to congenital

"THEY UNDERESTIMATE THE SPEED DISEASES SPREAD AROUND THE WORLD THESE DAYS."

microcephaly. "In 17 years as a doctor, I had never seen anything like that," says Melo. "A few days later, I received a [text] in a researcher's group about the suspected link between microcephaly and Zika. And then it hit home: It was the only possible explanation."

Melo reached out to colleagues in search of a way to test the two women for Zika, but none of the private laboratories she typically used had the tools necessary. "I did not have any contacts at the Ministry of Health and did not know the public ones that were beginning to research Zika. It took almost two months to find a way," Melo says. Eventually, a friend mentioned a researcher at Fiocruz. "On the day of my birthday [November 5], she called me," says Melo. "We talked for two hours, trying to figure a way to send amniotic liquid to Rio de Janeiro while my guests celebrated [my birthday] for me."

When the results came back, Melo's suspicions were confirmed: There were traces of Zika virus



in the amniotic fluid. For the first time, the virus was found in contact with malformed newborns. "This was what we needed to confirm the link between the microcephaly and Zika," says Brito. The Ministry of Health, however, considered the connection "very likely" but not confirmed. Two weeks later, on November 28, another Brazilian research foundation confirmed that their scientists had found the virus in the brain of a stillborn baby. The Brazilian Ministry of Health released a statement that day saying Zika was the cause of the microcephaly outbreak.

It took another six weeks for the World Health Organization to issue a worldwide alert, despite the pleas of the Brazilian government, which had already declared a national health emergency. Urged on by an independent experts committee, the WHO finally decreed a global health emergency in February 2016.

After weeks of sleepless nights, Brito—the father of three young women—could finally breathe; the world had opened its eyes to the medical crisis that was first uncovered three months ago by a small group of doctors in northeast Brazil.

Public health officials across the Americas are now working feverishly to devise some solution to Zika. There are the research projects that sound halfway between science and fiction,

like releasing into the wild lab-made versions of *Aedes aegypti* that have been genetically modified to quickly render entire populations sterile, or using bacteria that live in the mosquito's gut as a sort of Trojan horse to deliver molecules that could shut off the insect's ability to reproduce. There are the Hail Mary proposals, like bringing back DDT, a powerfully effective neurotoxic insecticide that has widely fallen out of favor since Rachel Carson's 1962 book, *Silent Spring*, revealed it caused environmental havoc.

Then there are the more mundane answers, like providing citizens with the basic knowledge and tools (environmentally friendly insecticide) they need to avoid infection and recognize Zika if it arrives in their home. Another simple solution is to bring better family planning options,

like birth control and legalized abortion, to parts of South America where women with unwanted pregnancies have no legal recourse. Giving women more control over their reproduction, many say, would alleviate the real concern: the heightened risk that an infected woman would give birth to a child stricken with microcephaly.

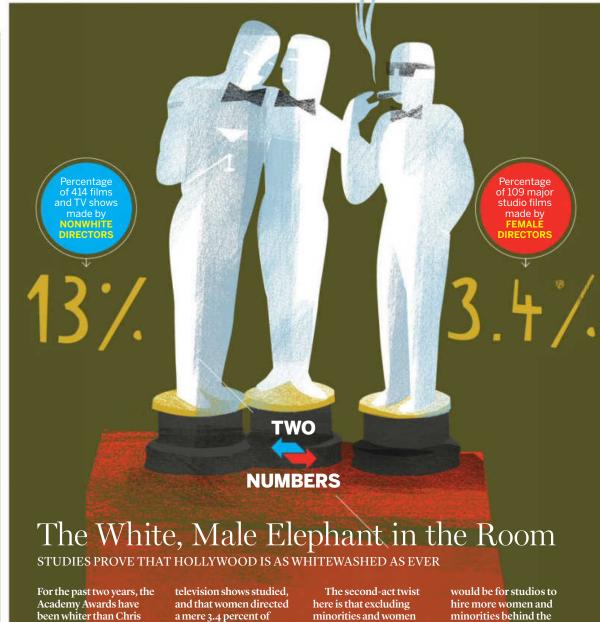
Speaking of prophylactics—perhaps the real panacea would be a vaccine, distributed to every citizen of every troubled country. And it could be on its way; the U.S. National Institute of Allergy and Infectious Diseases, for one, is ramping up its efforts, focusing on adapting a West Nile virus vaccine that was recently successful in Phase I trials. Big Pharma is looking into it too; Sanofi Pasteur, for example, has launched an initiative to leverage the work it has done with a recently approved dengue vaccine to quickly develop one for Zika. *Quickly*, though, is a relative term here. Realistically, a vaccine could take millions of dollars and several years to design, test and distribute.

So far, there have been 3,893 suspected and 508 confirmed cases of microcephaly in Brazil; in 41 of these, the link to Zika infection has been verified. On February 19, the WHO announced that a group of researchers from the U.S. Centers for

THERE WAS THE UNIMAG-INABLE POTENTIAL THAT MICROCEPHALY COULD BECOME AS WIDESPREAD AS THE COMMON COLD.

Disease Control and Prevention and a Brazilian biotechnology company in the northeastern states of Bahia and Paraíba had found evidence of the Zika virus in autopsies conducted on infants with microcephaly, further solidifying the connection between the two health issues. Nevertheless, conspiracy theories abound in Brazil about the "true" cause of the microcephaly outbreak, ranging from expired vaccines to the use of larvicides or transgenic mosquitoes. These are fed by the fact that other countries, such as Colombia, have found the presence of Zika but no microcephaly.

"We do not have all the answers yet, of course. It is an ongoing investigation," says Luz. "Perhaps the virus had a mutation before coming to Brazil? What we cannot do is to wait months to be 100 percent sure. We have to do something now."



For the past two years, the Academy Awards have been whiter than Chris Christie in a blizzard. This year, the lack of diversity spawned the #Oscars-SoWhite hashtag, and a few celebrities boycotted the show. Now a study from the University of Southern California titled "Inclusion or Invisibility?" confirms that the backlash isn't just hype.

The study looked at movies released theatrically in 2014 and TV shows airing from September 2014 to August 2015. The data revealed that people of color directed just 13 percent of the 414 films and television shows studied, and that women directed a mere 3.4 percent of the 109 major motion pictures studios released in 2014. Of those female directors, just two were black: *Selma*'s Ava DuVernay and Amma Asante, the Ghanaian-British director of *Belle*.

The statistics for minorities in front of the camera aren't much better: Only 28.3 percent of all speaking characters across the studied media were from underrepresented racial and ethnic groups. In the words of the study's six authors, Hollywood remains a straight, white boys' club.

from the film industry may hurt its bottom line. A 2015 study by the Ralph J. Bunche Center for African American Studies at the University of California, Los Angeles, looked at 163 films released in 2013. Movies with a cast of 21 to 30 percent minority actors brought in an average of \$143.3 million at the box office, while films with casts that had less than 10 percent minority actors averaged only \$53.2 million.

The USC study suggests that one way to promote diversity on screen would be for studios to hire more women and minorities behind the camera. Researchers found that films directed by women had 5.4 percent more female characters than those directed by men. Likewise, films made by directors from racial and ethnic minority groups increased the percentage of minority speaking characters to 43.7 percent, up from 26.2 percent in films by white directors.

Solve this and Hollywood could address its high percentage of horrible remakes.

BY
PAULA MEJIA

Metaciouspm

SOURCE: USC, UCLA



THE APPLE OF BEIJING'S EYE

What the tech giant did and didn't do when China knocked on its backdoor

APPLE'S STANDOFF over the FBI's demand to crack open the cellphone used by San Bernardino killer Syed Rizwan Farook is more than a quintessentially American debate over the limits of privacy in an era of terrorism. It has also shone a light on how U.S. technology companies navigate the demands of governments in authoritarian countries that don't give a damn about civil liberties but also happen to be very important to corporate bottom lines. China, the world's second largest economy, heads that list, but it also includes Vladimir Putin's Russia, where the security services have gained a reputation as perhaps the most technologically sophisticated of America's adversaries. Specifically, the Apple case in the U.S. has raised the issue of whether the tech giant gives foreign governments things it righteously refuses to give to the FBI.

U.S. companies have been under pressure in China for years, for two main reasons. First, the country is effectively a police state, with the ruling Communist party stifling free expression and its massive security apparatus working to make sure any dissent or popular uprising is instantly quashed. Technology companies are therefore a threat to the government—or, potentially, a useful tool in the pursuit of the government's designs.

Second, China's economic policy places a premium on it becoming a technology power-house, home to companies that the government hopes someday will supplant Apple et al. atop the tech pyramid. Local-content requirements, mandatory joint ventures and forced technology



transfers in exchange for market access have all been part of Beijing's playbook (just as, to be fair, they were in other, less-authoritarian countries, including Japan and South Korea).

The pressures are intense, and companies have chosen to push back (or not) in various ways. Most famously (or, in the eyes of some shareholders,

BY BILL POWELL

BIOMETRIC PHONE:
Apple's iPhone 5S
comes with fingerprint ID that makes
it easier for the
owner, and harder
for anyone else, to
unlock the phone—
unless you're
James Bond.



infamously), Google's co-founders, Sergey Brin and Larry Page, chose not to operate in China rather than succumb to the government's censorship, which forbids honest information about things like the 1989 Tiananmen Square massacre from appearing in Web searches. (Search "Tiananmen Square" on Baidu, China's Google equivalent, and you tend to get a bunch of listings about what a nice tourist spot it is.) Brin said his upbringing in the former Soviet Union would not allow him to play nice with government censors.

On other occasions, companies have pushed back against China, and they have even done so collectively. In one famous episode, in late 2009, China's Ministry of Science and Technology demanded that all the technologies used in products sold to the government be developed in China, which would have forced multinational companies to locate many more of their R&D activities in a country where intellectual property is notoriously unsafe. After howls of protest from a range of high-tech companies, the ministry backed down.

In other instances, high-profile tech companies have been, in the eyes of critics, something less than profiles in courage. Most notoriously, in 2005 Yahoo Holdings Ltd. in Hong Kong provided Chi-

nese authorities the IP address for Shi Tao, a journalist who was later arrested and sentenced to a 10-year prison term for "illegally providing state secrets to foreign entities." Shi, a newspaper reporter, had sent an email to a friend in the U.S. about Beijing's instructions to Chinese media to ignore any public commemorations of the Tiananmen massacre as its anniversary drew near.

Yahoo's lawyers explained the company was merely complying with Chinese law—a requirement of any company operating in the country. "If we want to do business here, we don't get to pick and choose which laws we like and which we don't," a Yahoo executive told me at the time. (Shi was released in September 2013.)

That lament—we don't get to pick the laws we like—is pretty much how every businessperson feels trying to operate in China. And it now applies to Apple, which in the wake of the conflict with the FBI has seen a flood of misinformation about its actions in China in the press and on technology blogs across the world. Before explaining what Apple did and didn't do in China, it's important to emphasize the bottom line: There is no evidence Apple has provided anything to the Chinese government that it's refusing to give to the U.S. feds.

So what did Apple do? Consider the hysteria surrounding Edward Snowden's claims in 2013 that U.S. tech companies, including Apple, allowed governments "backdoors" into their operating systems, allowing them to spy on users and access private data on devices. Apple CEO Tim Cook shrieked from the mountaintops that no government had any backdoor into its products or services—and never would. Beijing, engaged in an escalating cyberwar with the U.S., wasn't going to take his word for it. So, according to Chinese state media and technology executives in China, it told Apple it needed to do a "security audit" on its products. A year ago, it did so, and it's never been clear whether there were any ramifications from the audit. Apple has continued to sell iPhones and all its other products without incident.

Note the irony: China's security audit was done to ensure that Apple had not already built a backdoor into its products that the U.S. government could use to its advantage in China. (Apple has never publicly confirmed or denied the security audit.) But now, in the wake of the controversy over the San Bernardino attacker's phone, the mere fact that Beijing did a security audit has raised suspicions that Apple jumped to Beijing's tune in a way it defiantly refuses to do in the U.S.

SEARCH "TIANANMEN SQUARE" ON CHINA'S GOOGLE EQUIVALENT, AND YOU GET LISTINGS ABOUT WHAT A NICE TOURIST SPOT IT IS.

But there's little evidence this is true. Some critics pounced on the security audit and concluded that Apple "gave" the Chinese government its "source code" and therefore, in theory, gave Beijing ideas about how it can build its own backdoor into Apple products. This is almost certainly wrong. As John Kheit of the all-Apple, all-the-time website the Mac Observer puts it, "Showing the source code in no way reveals the magic encryption keys generated by the source code and maintained in secret on people's individual devices."

Apple is fighting a battle that "Don't-treadon-my-iPhone" libertarians love and "Getthe-terrorists-before-they-get-us" hawks hate. However it turns out, it is important for Apple to allay fears that it is playing a double game in what will eventually be its biggest market.



RETURN OF THE (UNREGULATED) DRONES

In its rush to limit the danger of unmanned aircraft, the U.S. government may have broken the law

AS A HEAT WAVE swept across California this past summer, a fire broke out on the parched hills of northeastern Los Angeles and roasted several vehicles along a major highway. Firefighters initially struggled to contain the blaze, and peeved U.S. forestry officers said their efforts lagged because people kept flying drones nearby, which interfered with their planes. "You've got people in areas where they think it is cool," California Department of Forestry and Fire Protection spokesman Daniel Berlant told *The New York Times*. "But they don't realize the implication of what they are doing."

They're not the only ones. Over the past five years, drones have become not only cheap and easy to fly, but also a public nuisance—slamming into infants, drifting close to airports and crashing onto the White House lawn. Now, after years of leaving the industry alone, the Federal Aviation Authority (FAA) is trying to force owners to register their aircraft.

Late last year, the FAA and the Department of Transportation—with the drone industry's support—quickly created an online registry for hobbyists. Its goal is to track down law-breaking owners and hold them accountable. The penalty for not registering: up to three years in prison and a \$250,000 fine. There's no way to know what percentage of drone hobbyists have

followed the new rules. But as of February 8, the FAA says 329,954 owners have signed up for the registry. "Make no mistake: Unmanned aircraft enthusiast[s] are aviators," U.S. Transportation Secretary Anthony Foxx said in a statement in December, "and with that title comes a great deal of responsibility."

Not everyone is pleased about the requirement. Some drone owners say it's illegal, and they're challenging the FAA in court. Leading the fight: John Taylor, an insurance attorney and drone hobbyist in Silver Spring, Maryland. When the registry launched in December, Taylor says he waited for an appropriate lawyer to file a suit. When that didn't happen, he did it himself. "I truly believe," he says, "the FAA has no real defense."

Taylor bases his argument on a half-page clause in the FAA's Modernization and Reform Act, which explicitly prohibits the agency from making new rules and regulations regarding model aircraft. In launching the registry, Taylor claims, the FAA has technically created a regulation as well.

The FAA disagrees. It argues the registry isn't new, but rather an extension of a paper-based program for regular aircraft that was codified during the Eisenhower era.

Either way, drone registration may have another problem. Under a separate piece of legislation,

BY
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SILENT WITNESS:
The U.S. House
Energy and Commerce Committee
heard testimony
in November on
whether and how to
regulate unmanned
vehicles. This drone
did not testify.

signed in 1946, all regulations from federal agencies need to go through a public notice period so nongovernment entities can offer feedback. The FAA circumvented this process, however, saying the registry was too important to wait.

In doing so, the agency betrayed the public trust, argues Jonathan Rupprecht, an aviation attorney in West Palm Beach, Florida, who is working with Taylor on the lawsuit. "Instead of the FAA being seen as an agency here to help and educate the people," he says, "they look like dictators who say, 'You must obey, or you get a few years in jail."

Drone enthusiasts have other concerns as well—namely, privacy. The FAA says it will make the registration numbers in its database open to the public. But as Taylor cites in his lawsuit, several drone owners claim they've received other

"I TRULY BELIEVE THE FAA HAS NO REAL DEFENSE."

people's information after completing an application. A spokesperson for the agency declined to comment on the matter because of the pending litigation.

It's unclear when there will be a ruling on the lawsuit, but the FAA doesn't seem to have a backup plan. If a judge declares the registry illegal, the agency may be forced to wait on a fractious Congress to establish drone regulations.

Taylor is optimistic and eager to stop what he calls federal overreach. So is Rupprecht, who seems to be enjoying the fight. "I'm here," he says, "to blow the registry up."



THINGS FALLING APART

A revived secessionist movement is adding to Nigeria's troubles

DRESSED in white, Nnamdi Kanu took his seat in the Federal High Court in Abuja, Nigeria, on February 9. Though he had been detained for almost four months, the 48-year-old activist initially declined requests from court officers to agree to have his handcuffs removed. In an act of defiance, he raised his cuffed hands to the television cameras. It was hard to divine his intention, but the act and his angry expression suggested that he barely recognized the authority of the court.

Kanu, a dual British-Nigerian citizen, was arrested in Lagos in October during a visit from London. Kanu leads the Indigenous People of Biafra (IPOB), a separatist movement calling for the independence of the southeastern territories that made up Biafra in the 1960s. He denies the six charges against him, including treasonable felony, which carries a possible life sentence. Authorities essentially accuse Kanu of trying to overthrow the Nigerian head of state by broadcasting secessionist propaganda on Radio Biafra, the underground radio station he runs from London.

An oil-rich region about the size of the island of Ireland, the former Republic of Biafra has a history of turmoil. It existed as an independent republic for just two and a half years in the late 1960s, after millions of people—mainly from the southern Igbo ethnic group—led a movement to secede from the newly independent Nigeria, sparking the civil war of 1967 to 1970, which claimed more than 1 million lives. Forty-six years later, Nigeria again faces a potential uprising in the southeast. Since Kanu's arrest in October, a protest movement has

sprung up, with thousands of people identifying as Biafrans demonstrating across the southeast and as far north as Abuja to demand the release of their leader. The demonstrations began peacefully but turned bloody in December: According to Associated Press reports, at least 22 protesters and two police officers have been killed in clashes at pro-Biafra rallies. The government has not provided an official death toll, but Uchenna Asiegbu, a senior IPOB official, tells *Newsweek* more than 100 civilians have died.

The rise in tensions between pro-Biafra activists and the Nigerian government comes as Nigeria—Africa's biggest economy and most populous nation—is grappling with serious challenges. It has struggled to quell an insurgency mounted by Boko Haram, a militant group that has killed an estimated 20,000 people since 2009 as it attempts to establish an Islamic state in northeast Nigeria. Although President Muhammadu Buhari said in December Boko Haram had been "technically" defeated, the group continues to attack civilians and security forces.

Meanwhile, militant groups in the oil-rich Niger Delta have been linked to a series of recent attacks on oil and gas facilities in the area, which was wracked by conflict in the mid-2000s. A Cabinet minister said in January the attacks were costing the country \$2.4 million a day. This instability in both the northeast and the south, combined with plummeting oil prices, has hammered the economy. (Oil revenue constitutes 35 percent of Nigeria's gross domestic product and



BY
CONOR GAFFEY
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BIAFRA REDUX:
Pro-Biafran
protesters took
to the streets in
Aba, southeastern
Nigeria, in November to demand
the release of
separatist leader
Nnamdi Kanu.

90 percent of the country's exports.) In December, Buhari said he expected the budget deficit to double in 2016 and capital expenditures to triple, as the government tries to revive growth.

Now, as pro-Biafra groups step up their demands for a breakaway state, the government faces yet another challenge. Today's pro-Biafra secessionist movement, led mainly by young people with no direct memory of the civil war, shares some of the same concerns that sparked the original calls for independence. Nigeria was forged in 1914, when British colonialists cobbled together two territories, hoping to subsidize the poorer north with the resources of the oil-rich south. The borders of modern-day Nigeria did not reflect the ethnic boundaries of different rival kingdoms: the Igbos in the southeast, the Hausa-Fulani in the North and the Yoruba in the southwest.

After Nigeria declared itself independent of British colonial rule in 1960, regional and ethnic tensions erupted in a vicious power struggle. In 1967, military officer Odumegwu Ojukwu annexed the southeast and declared the independent Republic of Biafra. That marked the start of Nigeria's bloody civil war, which ended in 1970 after Nigeria blockaded Biafra's border and hundreds of thousands of people starved to death.

Following Nigeria's return to democratic rule in 1999, the Movement for the Actualization of the Sovereign State of Biafra was founded. The IPOB, established 10 years later, has since become the premier pro-Biafra movement; it claims to have some 20 million members and 95 branches across the world. It has even opened its first Biafran embassy in northern Spain's Basque country.

Kanu was elected IPOB leader in September 2015. "Nnamdi Kanu is ordained to take us to the Biafran promised land," says Asiegbu. "He is the chosen one." Kanu's critics say that the secessionist leader is a promoter of hate speech and propaganda. At an event in May 2014 to commemorate the 1967 declaration of the Republic of Biafra, Kanu reportedly told a group of IPOB members and civil war veterans: "We shall fight until we get Biafra. If they don't give us Biafra, no human being will remain alive in Nigeria by that time."

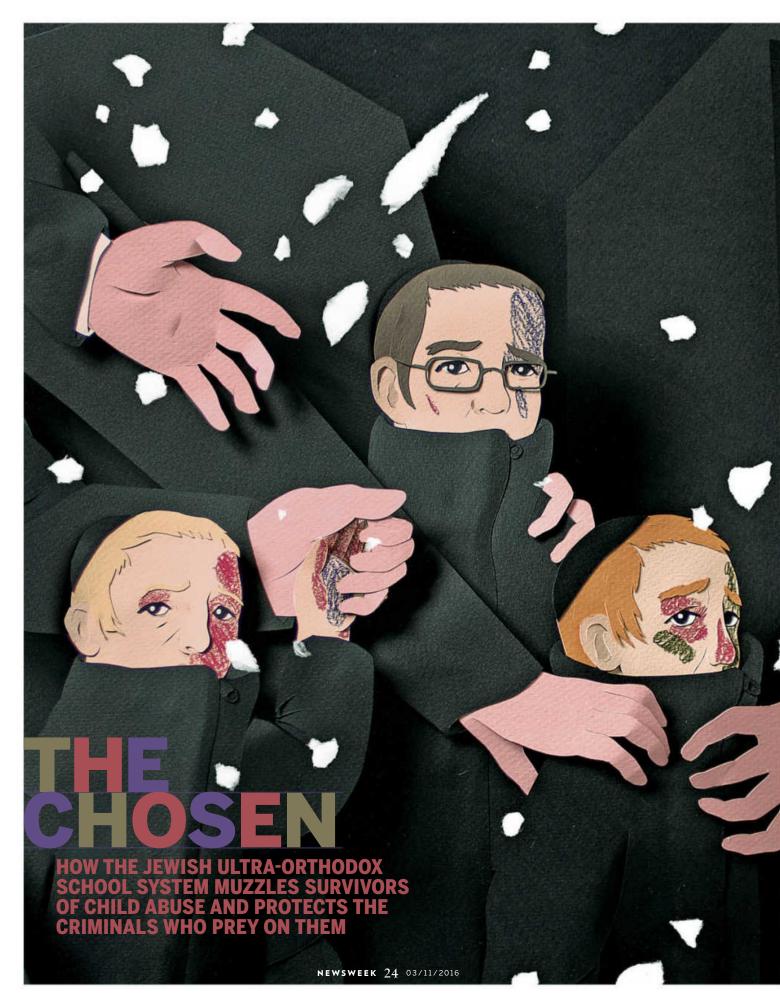
Nigeria's president has said relatively little on the subject of Kanu's arrest or the Biafran issue. In December, Buhari told journalists that Kanu had entered the country without a passport—a claim Kanu disputes. "There's a treasonable

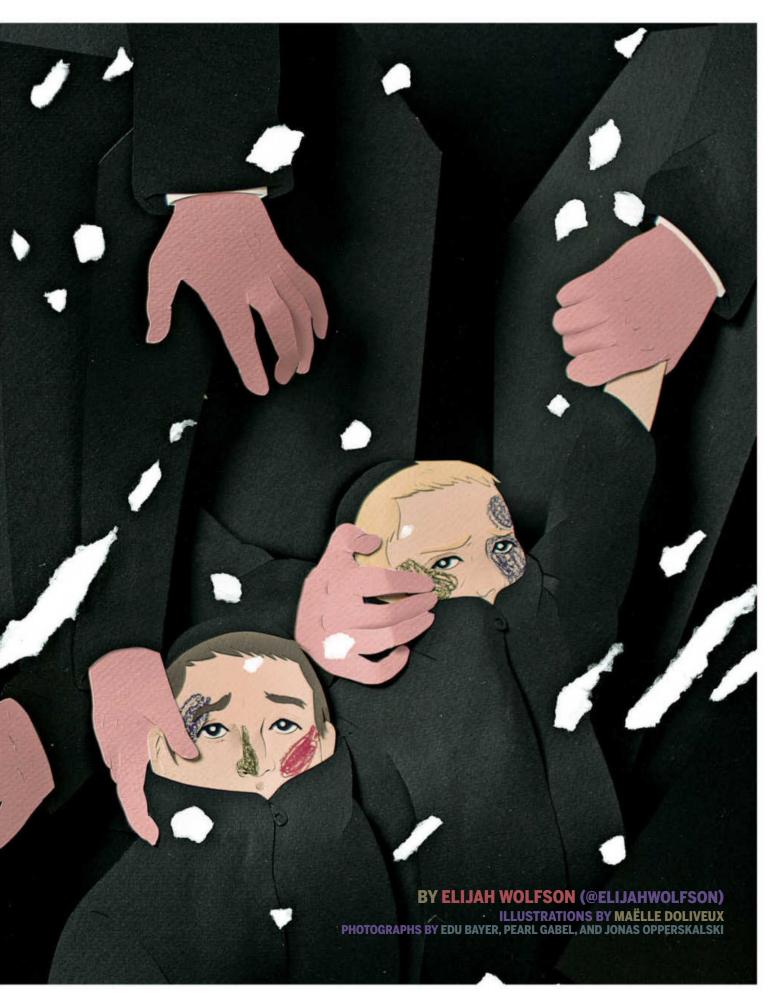
"NNAMDI KANU IS ORDAINED TO TAKE US TO THE BIAFRAN PROMISED LAND. HE IS THE CHOSEN ONE."

felony against him, and I hope the court will listen to the case," Buhari said. Since then, the president has kept silent, and the government has declined repeated requests from *Newsweek* for further comment.

With pro-Biafra protesters rallying around Kanu's arrest, the outcome of the trial could heighten tensions between the activists and the government. "The significance of Kanu's trial can only be determined by what follows after," says Manji Cheto, an Africa analyst at U.K.-based risk consultancy Teneo Intelligence. "Should IPOB react violently, it could potentially be a tipping point for the Biafra agitation."









MINT-COLORED city buses and sherbet mid-rise apartment complexes with undulating facades. Women in polka-dot bikinis and men in wide-lapelled shirts unbuttoned halfway down their chests. Post-card-perfect white sand beaches and cocaine-addled nights that throbbed to a mix of brassy disco and tropical Cuban beats. It was 1981, and the 19-square-mile barrier island known as Miami Beach was on the verge of bursting into one of the most hedonistic scenes committed to the history books.

Somehow, in the midst of this Caribbean decadence, a very different community also thrived. Just a few blocks from the scantily dressed beachgoers and the drug lords in Armani silk were men in ill-fitting black suits and heavy beards, and women in thick wigs and long woolen skirts all year long, even as the wet heat of the Atlantic swept across the peninsula. The ranks of Miami's ultra-Orthodox Jews, Hasidim, were swelling. They were insular and defiantly antisecular, clinging to traditions that may have protected their community in a medieval world but in modern America would lead to tragic consequences for many of their youngest, most vulnerable members.

Twelve-year-old Ozer Simon hadn't grown up Hasidic, but after his parents divorced, his mom became a *baal teshuva*, a secular Jew who has "returned" to religious ways, and enrolled him at a yeshiva. He immediately fell behind because the other kids had been studying Hebrew since they were toddlers, so when Rabbi Joseph Reizes, a new teacher recently arrived from Brooklyn, offered to tutor the child, his mother jumped at the opportunity.

But when she asked Simon how his first lesson went, she could tell "something was really wrong." Simon told her the rabbi hadn't taught him anything; instead, he'd asked the boy to lie down and take a nap. When he did, the older man lay down on top of him. The next school day, Simon's mother went to



Rabbi Avrohom Korf, principal of the boy's school, and told him what had happened. "I said to him, 'If Reizes continues to teach here, I'm going to go to the newspaper. Or whatever it takes," she recalls. "The next thing I know, the guy is gone."

Korf says he confronted Reizes with Simon's mother's complaint and that the teacher fled back to Brooklyn of his own volition. Soon after, Reizes



was hired to teach elementary school at Oholei Torah, a yeshiva in Crown Heights. No official complaint against him was ever filed in Miami, and Simon's school never alerted Oholei Torah about the incident that had prompted Reizes's quick return to Brooklyn.

Fifteen years later, Reizes was fired from Oholei Torah after allegations of sexual abuse arose yet again. A parent "informed a principal that his son was inappropriately touched during a private tutoring session with Reices [sic], after school hours and off school premises," Oholei Torah's director, Rabbi Sholom Rosenfeld, tells Newsweek via email.

Reizes was allowed to finish the school year, but Rosenfeld insists he was kept under "constant monitoring" for those three weeks. (Oholei Torah denied *Newsweek* many requests to speak to someone about this issue and stopped responding to email questions after an initial exchange. Through its lawyer, the school sent a note stating that to answer more questions would "compromise its legal and religious obligations." Reizes did not respond to requests for comment.)

When contacted by Newsweek, the child whose parents brought the complaint to the school in 1996 didn't want to speak about it publicly, but other students from that class say Reizes long had a reputation for inappropriate behavior. Bibi Morozow, 31 years old and now living in Florida, says a relative was molested by Reizes while attending Oholei Torah in the 1990s. (When reached by Newsweek on the phone, the relative declined to be interviewed.) "Reizes was always touchy; he'd put kids in his lap," says one student who asked

to remain anonymous because he feared being shunned by his community.

But no complaints were ever registered about the rabbi, nor were any criminal charges filed—in fact, a Freedom of Information Act request to the Brooklyn district attorney's office turned up no evidence of his name ever appearing in its records. By now, the statute of limitations for most, if not all, of Reizes's

alleged crimes has expired, and the survivors are grown men, some with young boys in the Hasidic school system. Most are afraid to go public because they fear ruining the lives of their children. Reizes, now retired and in his 60s, lives across the street from the school where he used to teach.

While there is no evidence that child abuse is any more likely to occur in ultra-Orthodox schools than in public or secular institutions, stories like Reizes's—an alleged abuser sheltered and victims unwilling to talk for fear of losing the only way of life they know—are common in the Hasidic school system. The many former students, advocates, sociologists, social workers and survivors interviewed by *Newsweek*,

"THIS IS ALL THE MONEY I HAVE. TAKE IT. BUT DO ME A FAVOR, DO NOT SAY ANYTHING."

along with recordings, documents, public filings and personal emails that *Newsweek* obtained, place the blame on a confluence of factors: widespread sexual repression, a strong resistance to the secular world, and, most important, a power structure designed to keep people from speaking up about abuse.

INTRODUCED TO FORBIDDEN KNOWLEDGE

SET ON a leafy stretch of Eastern Parkway in Crown Heights, Oholei Torah is one of the most important institutions in the Chabad movement's global yeshiva network and one of the largest of the dozens of Chabad schools in Brooklyn, with nearly 2,000 students at any given time. But stop any middle-schoolage kid in the school's hallways, and he—there are no female students—will likely know nothing of world history, won't be able to do long division and will speak only rudimentary English—even though he's growing up in the biggest city in the United States.

Oholei Torah conducts its seven-plus daily hours of religious lessons mostly in Yiddish. According to more than a dozen former students across three decades, it provides almost no lessons in science, math, English grammar or history. (The school did not respond to queries about its curriculum.) Many of these students go home to an apartment with no television, no Internet, no newspapers and no books

except religious texts. Many will not gain the basic knowledge of how to navigate the world until they are married off around age 18, like how to write a check, how to order General Tso's chicken or even what sex is. When you're a child in this environment, you don't question the fact that you can't identify your own state on a map. And when you are molested, you don't ask questions about that either.

In the ultra-Orthodox world, sexuality is simultaneously denied and monitored to the point of obsession. Starting in childhood, boys and girls are separated; the opposite gender remains a mystery until it's time to marry, usually in an arranged pairing. Boys are taught to avoid looking at girls, while girls are taught that they are a source of sex and transgression, say former members of the Haredi, or ultra-Orthodox Jewish, community.

If children aren't taught by their parents and teachers about appropriate sexual behavior, they have no way to sense when touching turns into something that is wrong. "You don't even know what your body is," says Lynn Davidman, a professor of sociology and religious studies at the University of Kansas who grew up in a religious Jewish family. "And you are not supposed to touch or know, and then all of a sudden you are introduced to forbidden knowledge in a most abusive way." The abused have no way to make sense of what's going on, to stop it or to tell anybody about it.

When Manny Vogel was in seventh grade at Oholei Torah, a student a few years older, high school age, wouldn't let him alone—he'd follow Vogel in the hallways, into study halls and in the lunchroom. Then,

"WHAT DID YOU DO TO MAKE HIM TOUCH YOU?"

Vogel recalls, the boy asked for a favor. "He claimed he wanted to try karate moves on me." But karate was simply a pretense to touch the younger boy in ways he would later come to recognize as inappropriate. One time, Vogel says, the classmate paid him \$5 to let him touch Vogel's genitals over his pants. Vogel never said anything to his teachers, principal or parents. "He took advantage of me. I didn't know any better."

According to Vogel and other students, this older student had a reputation for touching younger kids—and teachers and administrators knew it. There were



Manny Vogel believes yeshiva authorities did not adequately respond when he brought serious allegations of sexual molestation to them.

rumors he offered a classmate \$175 for a "karate practice session." Students believed the kid used the money he raised from selling bagels—eaten at school, after morning prayers—to fund his perversion.

Eventually, Vogel says, school administrators prohibited the student from selling bagels. (The school denies any knowledge of this. The student could not be reached for comment.) But the boy wasn't punished, much less formally charged with any crime, and fellow students say the abuse continued until he graduated. Recently, the alleged abuser, now grown, was invited back to Oholei Torah to be a shaliach-Hebrew for "messenger," a sort of missionary in Chabad who mentors the young and newly arrived to the community—and he remains a fixture in the Haredi community. Not long ago, Vogel's brother got married; the alleged abuser, Vogel says, showed up at the ceremony. "We were dancing, in a circle, and he was just staring and staring at me," says Vogel. "I was traumatized."

After graduating from Oholei Torah, Vogel went to study at Yeshiva Brunoy, a prominent Chabad school in the suburbs of Paris. There, he was befriended by a shaliach, a man in his early 20s who would take Vogel into a private room and get him drunk. That wasn't unusual; it was a custom at the school for older mentors to *farbreng* with younger students—sit together and discuss Hasidism while drinking hard liquor deep into the night. But unlike the other *farbrengen*, these didn't take place on the first-floor classrooms and were not open to others.

One hazy, liquored-up evening, the shaliach allegedly kissed and groped Vogel. When he sobered up the next day, Vogel was distraught. For days, the

memory ate at him as he struggled with the decision to tell or not. Finally, he called his stepfather in Brooklyn, who in turn called several senior educators and administrators at the school. The rabbis batted around the problem—no one wanted this toxic ball in his court. A week later, Vogel says, Rabbi Zalman Segal, director of the school's Higher Section for the oldest students, told him they would send the alleged abuser away to a yeshiva in another country.

Angry and confused, Vogel returned to New York. Not long after, he got a conciliatory email from the alleged abuser—and the numbers for two debit cards, with a dollar amount for each: \$2,000 and \$3,000. "He said, 'This is all the money I have. Take it and do what you want with it. But do me a favor, do not say anything—not for my sake, but for my family's sake." Vogel didn't take the money but decided to say nothing.

Two years later, I spoke to Vogel on a rainy summer evening in a Crown Heights bar not far from where he grew up. Just a few days before, he says, he had seen something that had shaken him: Segal and the man Vogel says had sexually abused him strolling together, chatting amiably. "They gave me such terrible flashbacks," Vogel says. Later, he found out that his alleged abuser had spent only a few weeks outside of France and was allowed back into Yeshiva

Brunoy once Vogel was gone. And this past summer, he says, the man found work at a Chabad summer camp, where he was responsible for the welfare of 300 kids and teenagers.

The school insists it responded adequately to Vogel's complaint: An email signed "Yeshiva Administration" says, "No sexual abuse was reported at the time of the incident, yet we took the concern of such or any abuse very seriously and sought professional guidance." The email adds that the school has worked closely with mental health professionals since then but can't share any details about what exactly that entails.

Newsweek's direct inquiries to Segal were ignored. Vogel asked that Newsweek not contact or name the older student because, he says, the fault really lies with Brunoy for "mishandling the situation"—for allowing his alleged abuser to return to a mentorship role at the yeshiva.

"I think there is little doubt that the extent and seriousness of abuse in society at large was underappreciated for decades until relatively recently," says Rabbi Avi Shafran, director of public affairs for Agudath Israel of America, an umbrella organization

Chaim Levin, an abuse survivor, is now an advocate for transparency and an activist for LGBT rights in the Hasidic community.





that provides leadership to Haredi communities. "Unfortunately, the Orthodox community was likewise unaware of the degree and severity of the problem in its own midst. That, though, has changed."

Oholei Torah's Rosenfeld tells *Newsweek* much the same, via email, adding, "I am proud to say that our school's guidelines have often been ahead of the law's mandates."

MEDIEVAL LAWS IN AMERICA

THERE ARE many institutional barriers to stopping child abuse in the Haredi world. For example, there's widespread belief that reporting abuse to secular authorities constitutes heresy. Traditional religious law prohibits *mesirah*, or "handing over"—a Jew may not snitch on another Jew to a secular government. Mesirah arose in the Middle Ages, when a European Jew charged with a crime would not get a fair trial—it was a prohibition designed, essentially, to protect against institutionalized anti-Semitism.

Today, in North American Haredi communities,

Ozer Simon says he was molested by a rabbi who was a teacher at a Miami school in the 1980s. After being accused of abuse, the teacher left Miami and was hired at a school in Brooklyn.

there is debate over how the mesirah prohibition should be applied. In 2011, the Crown Heights Beis Din (the rabbinical court that handles internal religious disputes) ruled that mesirah "do[es] not apply in cases where there is evidence of abuse" and that "one is forbidden to remain silent in such situations." And earlier this year, 107 Hasidic rabbis signed a *kol koreh*, or "public pronouncement," stating that there is a religious obligation to notify secular law enforcement when it knows of child abuse.

However, "knowing" is a murky term here. In 2012, Rabbi Chaim Dovid Zwiebel, executive vice president of Agudath Israel of America, said mesirah meant community members should turn to rabbinical authorities to "ascertain that the suspicion meets a certain threshold of credibility" before reporting child abuse to the authorities. Scroll through the comments section of any of the muckraking websites that

track abuses in the Haredi world—Unorthodox-Jew, FailedMessiah.com—and it quickly becomes clear how deferential this community is to religious authority. At the bottom of news coverage of sexual abuse trials are seething comments claiming the reporters are acting above their pay grade. "Stop speaking *loshon harah* and *chillul Hashem*"—evil speech and the desecration of God's name—"and let the Rabbis sort it out," they have written.

The problem, though, is that this puts the decision to report on individuals who are usually not qualified to recognize signs of abuse—and who, many say, have a vested interest in keeping secular eyes away. Furthermore, while New York state law says all school officials are required to disclose any child abuse, physical or sexual, they see or hear about to Child Protective Services—religious clergy are not. And when school officials are also religious officials—all yeshiva teachers are rabbis—there are dangerous legal loopholes.

Chaim Levin, who grew up in Crown Heights and went to Oholei Torah, says his older cousin, Sholom Eichler, sexually molested him throughout his childhood. "I was a 9-year-old boy, and he sodomized me with a pen," says Levin. "That's not two kids playing around." He didn't tell anyone for years, but in 2003, when Levin was 14, he finally confided in a former counselor at summer camp, who consulted with his father-in-law, Rabbi Hershel Lustig, and then told Levin he should talk to the rabbi.

Lustig has worked for Oholei Torah for over 40 years. He's an impeccably dressed, well-spoken man deeply beloved by the community. In 2003, he was the dean of Oholei Torah's elementary school, a position he still holds.

Levin met with Lustig and told him about the abuse. The rabbi tried to be comforting: He told Levin not to worry, that he would still be considered a virgin and that his chances of successful *shidduch*, matchmaking, hadn't been harmed. He also offered to tell Levin's parents, but added, "We shouldn't tell your parents who did it. It's not relevant."

For years, the abuse stayed buried, and everyone acted like nothing had happened: There is no public record that Lustig reported the incident to the police or to Child Protective Services. Lustig did not respond to *New sweek*'s queries about the episode.

In 2007, Eichler worked at Gan Israel Montreal, a religious summer camp where he was responsible for the well-being of children all day and all night. A few years later, when Eichler got married, Levin's family went to the wedding, but he stayed home. Finally, in 2012, he decided to speak out—one of the first and still one of the few members of the Brooklyn Hasidic community to go public about sexual abuse. He knew it was too late to press criminal charges, but he could still take Eichler to civil court,

so Levin sued his cousin for damages. When Levin tried to get Lustig to sign a declaration saying Levin had told the rabbi about the abuse a decade earlier, Lustig refused, saying it was against religious law.

Even without that evidence, the court ordered Eichler to pay Levin \$3.5 million. Levin has yet to collect, however. He says his cousin left the country soon after the court's decision and is in Israel, outside the reach of extradition. (Eichler's lawyer, David Krangle, did not respond to a request for comment.) "It started with what the trusted religious adviser, who lives down the street, told my parents to do," Levin says. "And my abuser got away with it."

'HE STARTED WORKING ME'

AFTER HIS distressing experience with Reizes in Miami Beach, Ozer Simon was sent to a boarding school in Brooklyn in 1983. Chanoch Lena'ar, he says, was a "dumping ground" for kids having problems in religious school—a place for all the misfits. Simon was flailing in school when the principal, Rabbi Jacob Bryski, offered to help with his studies. "Come by my office after lights out," he told the 14-year-old.

At first, Simon sat across the table from the principal during tutoring sessions, but when Bryski asked

"[THEN] HE GOT HIS HANDS IN MY PANTS. I DIDN'T SAY ANYTHING."

him to come closer, to sit next to him, Simon did. Then "he got his hands in my pants. I didn't say anything." That was just the first step. "He would take me to his house, to his basement, for a 'sleepover,'" says Simon. "He would feed me dinner, a good meal—I'm in a dorm with crappy food, and I had no money." After dinner, Simon says, Bryski would sexually molest him. "Whatever your mind can think of," he says of what was done to him. "It was a nightmare."

But Simon never told anybody. Bryski came from a highly respected and influential Hasidic family; one of his brothers is a multimillionaire in New York, and another is an important rabbi in California. Their father, Mordechai Meir Bryski, was a rabbi and real estate mogul, and a key figure in the establishment of the Hasidic school system in Brooklyn in the 1950s and '60s. Simon, meanwhile, was a troubled out-of-towner who wasn't even born Hasidic.

Who would believe his word against Bryski's? After all, as Mordy Gluckowsky, an Oholei student in the 1990s, says, "when we tell the parents or the teachers [about abuse], they say, 'Nobody did anything.' They say, 'What did you do to make him touch you?"

About a decade later, in 1993, Simon filed a verified civil complaint against Bryski and Chanoch Lena'ar in Brooklyn, asking for \$50 million in damages for the abuse he allegedly suffered. Simon claimed in his suit that Bryski, "at frequent times beginning in 1983 and ending in/or about 1985," engaged in "forcible sexual contact" with Simon and "otherwise assaulted"

"I HAVE TO STOP SEEING THESE KIDS WITH BRUISES COMING FROM YOUR SCHOOL."

him at Bryski's residence and the yeshiva. Bryski denied these claims in his publicly filed response and submitted a counterclaim, arguing that Simon had falsely defamed his good name and asking for \$10 million in damages. Five years later, the case was dismissed; the abuse Simon had alleged was no longer within the statute of limitations.

Bryski acknowledges, both in court documents obtained by *Newsweek* and today, that he let Simon stay at his house—because the child "had chicken pox for a few days, and it was catchy." He also says he never molested the boy. "He got kicked out of the school, so because of that he spread this libel against me. This is totally slander. I'm a father of 10 children. I am a respected person in the community."

By the 2010s, Simon was back in Miami, with a wife, young kids and a good job. He was in Chicago on business, driving through the city, when he got a call from a close friend. "Pull over," the friend said, then told Simon to bring up a website on his phone. When Simon called up JewishCommunityWatch.org, he was shocked to see a photo of Bryski on thesite's "Wall of Shame" of alleged child abusers. JCW is a grassroots organization dedicated to exposing child predators and educating the public on how to prevent and respond to child sexual abuse. The "Wall of Shame" is purportedly based on investigations, performed by the local nonprofit, of individuals who may not have been previously arrested, charged or convicted of any wrongdoing. Through JCW, Simon soon met another Bryski survivor, 12 years his junior.

Schneur Borenstein was 13 when he moved into Bryski's home in 2000. He had run away from his home in upstate New York and was living more or less on the streets of Brooklyn until a friend introduced him to Bryski. "He started working me," Borenstein tells *Newsweek*. "I was 13 and didn't have a place to stay. He took me into his home and provided me shelter and food. He gave me money to buy cigarettes." Even though the boy was unnerved by the fact that the grown man would creep into his bedroom at night and touch his penis, he kept his mouth shut. But after six months of abuse, Borenstein finally left.

Bryski says he kicked Borenstein out: "He drove us crazy in this house. In the end, I had no choice but to throw him out of the house. He got angry with me, [and afterward] he spread lies about me."

"Bryski picked his targets," says Simon, explaining that each school year, the principal would choose one student from his gang of misfits and prey on him. "I was an outcast," says Borenstein. "I was at a weak point in my life."

It's widely accepted by child abuse experts and advocates that some kids are particularly vulnerable. Usually, they are disadvantaged in some way—family problems, rejection by their peer group—that perpetrators can exploit, particularly if they are teachers who also happen to be religious authorities.

Many years after fleeing Bryski's home, Borenstein moved to Florida, where, with the encouragement of people like former Miami prosecutor Sara Shulevitz and Mark Meyer Appel, founder of Voice of Justice, a child advocacy group, he began to speak out. Borenstein published his story on a personal blog and talked to the Brooklyn district attorney's office about his legal options. But according to a district attorney's memorandum (which also provided Borenstein's account of Bryski's alleged abuse), prosecutors decided the statute of limitations had run out and chose not to pursue the case.

So Borenstein and his father, along with an attorney, traveled to Brooklyn and arranged a meeting with Bryski. During that conversation, which they taped, Bryski confessed to the sexual abuse, and they cut a deal. The Borensteins said they'd keep quiet about it under three conditions: Bryski would pay for Schneur Borenstein's therapy, get professional help and—most important—stay away from children.

At first, Bryski stuck to the agreement. Chanoch Lena'ar didn't reopen the next school year. But in 2012, Crown Heights community blogs began reporting that Bryski

was opening up a new school, in the same location, under a different name. Despite Bryski's prominence, Borenstein and Simon—now working together—were undaunted. They tracked down a list of the new school's board of directors. Simon's mother started making calls, alerting them to the allegations. The school never reopened. Bryski says he shut down the school after the New York City Department of Buildings said "he had some problems because a lot of work was done in the building without permits. [The inspector] must have been an anti-Semitic guy; he wrote up violations like crazy." (Bryski did send *Newsweek* a sample of violation notices from 2011 to 2013.)

Bryski still lives in Crown Heights, and though he has never been charged with or convicted of a crime, he is no longer a prominent community figure—after years of running widely respected schools, his career in education appears to be over. He says Simon and Borenstein ruined him: "Two people and that's the

end of my life. They took what I worked for for 35 years. My family suffered for no reason. I have seven married children and five I have to marry off."

'I'M SUPPOSED TO CALL THE POLICE'

LIKE MANY grade-school kids, Mendy Raymond acted up every now and then and occasionally got detention. When he was in fourth grade at Oholei Torah, for example, he was teasing a classmate. Normal kid stuff. His teacher told him to stop, but he didn't. He says the teacher, infuriated, charged the desk and him so hard that he fell to the ground and "nearly fractured" his arm. He was then sent to the detention teacher, Rabbi Menachem Mendel Zalmanov, who locked away Raymond's coat and bag and told him to sit down.

As a troubled adolescent, Schneur Borenstein was taken in by a prominent Brooklyn rabbi who, Borenstein says, sexually molested him.



Mendy Alexander, whose younger brother committed suicide years after being abused in their Hasidic community in Crown Heights.

Now in his 20s, Raymond doesn't remember what he did that set off Zalmanov—though he does remember being upset about his throbbing arm—but the next thing he knew, the teacher had hit him across the face so hard that he went flying into a closet, slamming his head into the hardwood. As the young child held his head in his hands, Zalmanov pulled him up by his shirt and threw him out of the class, closing the door behind him. Raymond ran out of the building, down the street and then home in the dead of winter, with no coat.

When his mother returned home that evening, the baby sitter was distraught. When Raymond had walked in the door, "he was shivering so uncontrollable it took a half-hour with blankets and hot drinks to warm him up," the baby sitter told his mother. Raymond's parents took their son to the family physician, a religious man respected in the community who, when he heard the story, called Lustig. He was blunt: "I have to stop seeing these kids with bruises coming from your school. You need to get a grip on what's happening." Lustig agreed to meet with Raymond, his father, mother and Zalmanov later that week. Meanwhile, Raymond would be suspended from the school, Lustig said.

"It was supposed to be a meeting where they would apologize to us," says Raymond's mother. "We got there expecting remorse and contrition, and it turned into a farce. They badmouthed Mendy and said he got what he deserved. I was in tears when they left." When they asked Zalmanov about his behavior, he was blunt, according to Raymond's mother: "For *chutzpah* [impudence], I *patsh* [smack]."

This wasn't the first time Zalmanov had allegedly harmed a student. Raymond's older brother Nachum says he's seen Zalmanov slap kids and even beat them up. "He was a known abuser," says Mendy Alexander, a former Oholei Torah student, now a 25-year-old studying pre-med at Brooklyn College. "I've seen him hit kids multiple times."

At the close of that meeting, Raymond's mother says, Lustig "seemed quite appalled." But when she and her husband asked Lustig to transfer Raymond to another teacher's class, the principal said there was no room for him there. And neither Raymond's teacher nor Zalmanov was ever disciplined.

There was little the family could do. "It was traumatic," Raymond's mother says. "You feel helpless. You open up your mouth, and you get ostracized."

It was widely known that if you ratted out someone in the community for abuse, the community would turn its back on you. Gena Diacomanolis is the senior



director of Safe Horizon's Jane Barker Brooklyn Child Advocacy Center, where, over the past decade, she says, they have made tremendous strides in the Haredi communities. But the biggest barrier remains the pressure the community puts on individuals who want to come forward with stories of abuse.

"I can tell you tons of stories where they were so fearful of going forward," she says. "I had one dad who said his son was sexually abused at school." He decided not to press charges, Diacomanolis recalls. "He said, 'I don't want you to think I don't love my child, but if I go forward, I won't find a marriage for my daughter." Diacomanolis also says families are often harassed when they come forward. One client who charged her husband with abusing their child "left her house, and the whole block was papered



with things saying terrible things about her."

One mother who found out her son had been sexually abused by a teacher at United Lubavitcher Yeshiva Ocean Parkway (another Hasidic school in Brooklyn; it did not respond to *Newsweek*'s phone calls or emailed requests for comment) says when she complained to the yeshiva's principal, she was shunned. "I got thrown out of the community," she says. "You can't imagine what was said to me. The phone calls I got. I was an outcast. I was threatened." Eventually, she left Crown Heights and then the state—yet she still insists on anonymity for fear of retribution from the community.

Raymond's parents transferred him and his brothers out of Oholei Torah at the end of that school year. The authorities were never brought in, and

Zalmanov, who was never charged with a crime, is still employed at Oholei Torah as a teacher's assistant; he did not respond to *Newsweek*'s requests for comment. "This is the kind of thing where people pick up the phone and go to *The New York Times* or call the cops," says Raymond's mother. "But nothing happened to those teachers."

While sex abuse grabs all the headlines, experts say physical abuse is far more pervasive and has a similarly insidious and long-lasting impact on victims. And condoning a light tap on the wrist (as most ultra-Orthodox yeshivas do) can sometimes provide teachers a margin of safety to dole out much more violent penalties—which is why corporal punishment is illegal in New York public schools.

However, there are no such restrictions in private schools (although, according to Rosenfeld, Oholei Torah has a "no corporal punishment rule") and little motivation for them to change, unless there's

"[THE TEACHER] LIFTED HIM IN THE AIR AND TOSSED HIM INTO A GLASS DOOR."

a very public scandal. "Catholic schools used to use a lot of corporal punishment too," says David Finkelhor, head of the University of New Hampshire's Crimes Against Children Research Center. "They've stopped, and I don't think it was because they got convinced it wasn't something they wanted to do."

PROTECTING THE PREDATORS

CHABAD HAS a global network of synagogues, schools and other facilities that is often used to shelter abusers on the run. When rumors of abuse begin to bubble up, teachers are shuttled from school to school, city to city—like Reizes, shipped from Brooklyn to Miami and then back. In March 2008, eight students accused Malka Leifer, principal of the Adass Israel school for girls in Elsternwick, a suburb of Melbourne, Australia, of sexual abuse. Just days later, she hopped on a plane and fled to Israel. In September 2015, Australia's Supreme Court awarded over \$1 million in compensation to a 28-year-old abused by Leifer from 2003 to 2006.

According to court documents, it was discovered during the course of the trial that there was a



concerted effort by the community to protect Leifer: The school's president at the time, Yitzhok Benedikt, and board member Mark Ernst played key roles in arranging her escape to Israel. The two men are facing criminal charges; Leifer was arrested in Israel last year and is now fighting extradition to Australia.

In recent years, Australia has emerged as the country most willing to confront child abuse in the Hasidic world. In 2013, the government formed the Royal Commission Into Institutional Responses to Child Sexual Abuse, and in early 2015 it began a large investigation into the Hasidic community. Weeks of hearings led to a report detailing alleged abuses—and how yeshivas and rabbinical leadership cover up that abuse and systematically ostracize survivors and their families.

Back in the U.S., in 2013, two days before Rosh Hashanah, one of the holiest days of the year on the Jewish calendar, a 7-year-old boy came home from school seriously injured. "He was traumatized—he couldn't speak," says "Shmuel," an adult family member who asked that *Newsweek* not print his name or that of anyone in his family. Eventually, the child told his parents the injury was caused by his teacher, Rabbi Velvel Karp, an Oholei Torah veteran.

Karp's name came up constantly during Newsweek's

conversations with former students, with stories dating back to the 1990s. Five young men said they witnessed him routinely hit students hard across the face and, as a way to scare them into submission, hang children by their shirt out an open window of his fourth-floor classroom—until the school moved him to a basement room. "I know personally of one kid that he hung out the window," says former student Mendy Alexander. "He's a friend of mine. He's still under community pressure and doesn't want to speak. But there were 28 students in the class, and everyone saw what happened. It's not a secret."

"The guy was completely abusive," says Mendy Pape, another former Oholei Torah student, now in his 20s. "When you walked into his classroom, children were afraid to move."

As their neighbors were preparing for the holiday, the child's family took him to the doctor, where they say he was diagnosed with a concussion. "Karp lifted him in the air and tossed him into a glass door or window—we're not sure," says Shmuel. The following week, the family told the school what had happened. Karp soon paid a visit to the family and begged for forgiveness, according to Shmuel, and a week later the school moved the child out of Karp's class. Meanwhile, the child's mother "begged the

A survivor of child sexual abuse, Manny Waks was a key witness in a recent Australian royal commission investigation that found a pattern of abuse and cover-up in the Hasidic leadership.

school to transfer Karp to an administration job," Shmuel says. "The school said they'd call her back, and they never did. That was two years ago."

Rumors reached the Brooklyn district attorney and were in turn passed along to a local detective who had been working the precinct. The detective investigated, despite the fact that there was no complainant. "No one wanted to cooperate," says the detective, who is retired now and asked to remain anonymous to protect her post-retirement livelihood. Oholei Torah, on the other hand, wrote in an email that it cooperated fully with the investigation and that both the police and the district attorney's office cleared Karp of any wrongdoing.

The detective confirms that nothing indicating criminality was uncovered during the course of the investigation: "After conducting a thorough investigation, I had no basis to proceed. An extensive investigation was conducted, but no one wanted to talk." Karp, who was never charged with or convicted of a crime, did not respond to *Newsweek*'s requests for comment.

Shmuel says there's a good reason the police investigation died: The child's family "didn't want to talk because they're scared. [His mom] is afraid they'll get kicked out of the school." Others who know the family say they've been able to send their kids to Oholei Torah only with the help of scholarships and reduced tuition that they now fear losing.

Oholei Torah, after all, is one of the most prestigious Chabad schools in Brooklyn. It has been praised by national luminaries like Joe Lieberman, the former U.S. senator from Connecticut, and former New York City Mayor Rudolph Giuliani. And it continues to have widespread support. On December 30, 2015, Oholei Torah launched a 24-hour crowdfunding campaign on Charidy.com, with the goal of raising \$2 million, in honor of its 60th anniversary. The school blew by the target, reaching \$2.7 million by day's end.

KNOWING YOU ARE SICK

DESPITE ALL the physical, sexual and emotional abuse they have witnessed or endured, most of the former Hasidic yeshiva students *Newsweek* spoke to insist that what people outside their community really need to be alarmed about is the dismal education offered by these schools. They are angry that when they reached 18 and finally moved out of their parents' home, they realized for the first time that they hadn't been given the tools needed to navigate the real world. (The New York City Department of

Education says they are currently investigating at least three dozen yeshivas to determine if they are providing adequate secular education.)

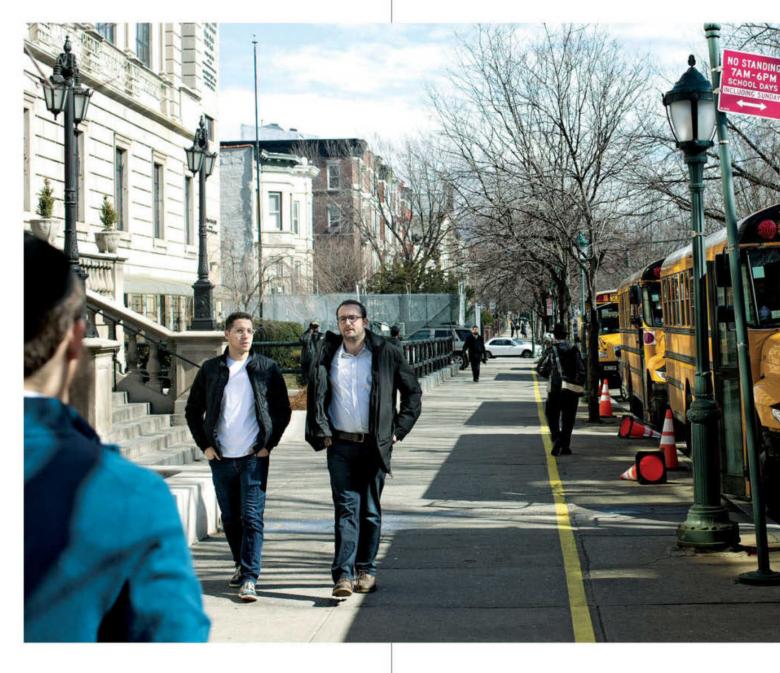
Perhaps this issue drives survivors because it is the one thing they can fix. After leaving the Orthodox world, many spend their early 20s regaining control of their lives and getting a real education. It's preposterously difficult for them because they are so far behind, but some do it. They earn GEDs, go to community college and then become doctors, artists, businessmen and social justice advocates. They focus on the future—because their efforts to stop the predators have been futile.

In New York, survivors of most cases of child molestation have five years after they turn 18 to get the district attorney to prosecute. (In cases of sexual

THE NEW YORK
CHILD VICTIMS ACT
HAS FACED FIERCE
OPPOSITION FROM
TWO POLITICAL
POWERHOUSES: THE
NEW YORK STATE
CATHOLIC CONFERENCE AND AGUDATH
ISRAEL OF AMERICA.

misconduct, legal proceedings must begin within two years after the offense was committed, regardless of the child's age at the time of the alleged crime.) Many child abuse experts say that window is not nearly big enough for young men just starting to understand what happened to them. It's no surprise that most of the abuse *Newsweek* uncovered happened long ago—no 10-year-old has the wherewithal to talk to the press about his abusive teacher. It takes a 25-year-old who has finally received a proper education to understand what was done to him 15 years ago.

For almost a decade, Assemblywoman Margaret Markey, from Queens, has been trying to pass a bill that would eliminate the statute of limitations on both criminal and civil cases of sex crimes against children. But she has faced fierce opposition from two political powerhouses: the New York State



Catholic Conference and Agudath Israel of America.

The Hasidic world is starting to take allegations of abuse more seriously, and many of the individuals who talked on the record with *Newsweek* for this story say they finally feel comfortable speaking publicly about their personal histories with abuse because of the community support that has emerged in recent years. Schneur Borenstein's parents, for example, are prominent members of the Hasidic community of Poughkeepsie, New York, where his father is the rabbi of the local Chabad synagogue, and they say the Hasidic public has been fully on their side.

There are also organizations like Jewish Community Watch punching holes in a formerly impenetrable wall. Though JCW has faced criticism for a lack of transparency on the process it uses to obtain confessions and the evidence used to determine

who ends up on its "Wall of Shame," the organization has never been sued for libel or defamation, and it has published a clear process on its website. Former Brooklyn District Attorney Charles Hynes has praised JCW and given it an award for "exposing child predators" and "creating change in the tight-knit Hasidic community in Brooklyn."

JCW's focus, it says, is to work with the community to improve transparency and protect children from abuse. "It is our sincere hope that the rebbe's institutions will follow [his] guidance by fostering openness and accountability," a JCW spokesperson says. "If wrongdoing has occurred, it should not be covered up but rather exposed and dealt with immediately. The foundation of our mission is to protect children. This can only happen when leadership is open and honest. Transparency leads to the protection of our children."



But others say that despite the lip service paid to cleaning up the Hasidic school system, nothing has changed. In 2015, Manny Waks, one of the key whistleblowers in the Australian royal commission inquiry, visited Crown Heights as part of an ABC television special. Chabad's international leadership "rolled out the red carpet," Waks says, even inviting him to meet with Rabbi Mendy Sharfstein, Chabad director of operations, to discuss ways to improve the community's response to abuse allegations.

Waks left the meeting feeling they had listened and were genuinely considering his proposals. However, in the months following, they went radio silent, ignoring his emails and calls. The meeting, Waks says, "was all smoke and mirrors. It was a PR exercise."

Consider the high-profile case of Sam Kellner, who took allegations of his son's sexual abuse to the

Chaim Levin, right, and Manny Vogel outside the Oholei Torah yeshiva in Crown Heights on February 25. Both men are former students of the school.

police in 2008 and worked with authorities to gather enough evidence to help convict Baruch Lebovits of child abuse in 2010. Lebovits was imprisoned and began to serve what was meant to be a sentence of 10 and half to 32 years—until the conviction was overturned on appeal in 2012, on the basis of a prosecutorial error, and Lebovits was released.

In 2011, Kellner was indicted on charges of bribing a man to falsely testify against Lebovits in order to extort hundreds of thousands of dollars from the Lebovits family. Those charges against Kellner were dropped in 2014 because the witnesses—members of the Lebovits family, as well as their friends and employees-"lacked credibility to such a degree that their testimony cannot be trusted," according to Kevin O'Donnell, an assistant district attorney at the time. The key witness—the man supposedly bribed by Kellner—was found to have been paid off by Lebovits's associate. At that point, in June 2014, Lebovits took a plea deal for two years. But because he had already served 13 months prior to his successful 2012 appeal, and thanks to a reduced sentence for good behavior, he was released in September 2014.

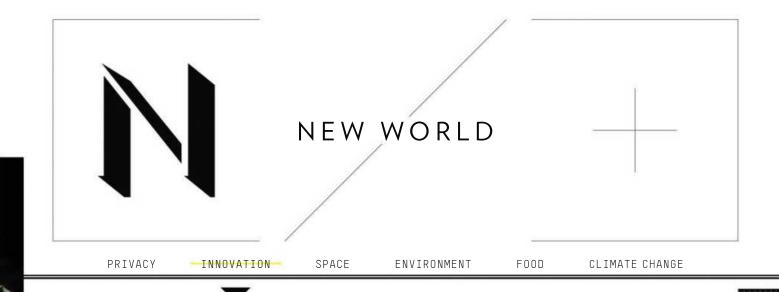
Meanwhile, Kellner nearly lost everything, and the community turned him into a pariah. His story is only uncommon because it's rare for anyone to speak out. But almost every other member of the Hasidic community who has come forward with allegations of abuse has suffered a similar fate; when Chaim Levin accused his cousin of molesting him, he was publicly called a liar over and over. "I was the villain for 'misleading' the public," Levin says. "From the age of 14, I was bounced around from yeshiva to yeshiva and was treated like a criminal because I had the audacity to speak up."

There were also dozens of additional stories of abuse *Newsweek* was unable to print because the victims could not give their names or corroborating evidence for fear of losing their friends, families, homes and livelihoods. The reality is that before the community learns to trust victims and consider alleged abusers—even rabbis—with skepticism, there will be many more Chaim Levins, and many more Sam Kellners, Ozer Simons, Manny Vogels and Schneur Borensteins.

"I'm very proud of Schneur," says his mother, Hindy. "I am very proud that these things were not swept under the rug and were dealt with openly." She prays that her family's story will set an example for not only its community but also others around the world. "In Judaism," she says, "we have an expression: Yediat machala, chetzi refuah—Knowing that you are sick is half the cure."



AGAINST THE FLOW: How quickly a medic stops the bleeding from a combat wound can be the difference between life and death.



GOOD SCIENCE

WOUND WARRIOR

A new kind of bandage stops bleeding faster and helps the body heal better



NEARLY A QUARTER of the U.S. troops who lost their lives before reaching a medical treatment facility in Iraq or Afghanistan between 2001 and 2011 didn't have to die. The U.S. Army found that about 25 percent of battlefield fatalities were "potentially survivable," and roughly 90 percent of those died primarily due to hemorrhage. The ability to stanch blood flow is critical on the battlefield and off. But in some scenarios, there aren't enough hands to get the bleeding of patients under control, or the injuries are in places (like the neck) where applying pressure is problematic.

Israeli company Core Scientific Creations (CSC) has created a bandage that makes controlling blood loss faster and easier. WoundClot Hemostatic Gauze is based on cellulose, a material commonly fo und in nature, but has a lab-modified molecular structure that is stable enough to allow it to absorb a lot of blood before dissolving harmlessly into the body. When the bandage comes into contact with a wound, explains Chief Technology Officer Shani Eliyahu-Gross, it begins absorbing blood, with the capacity to hold roughly

2,500 times its own weight. Once it's exposed to liquid, the gauze transforms into a gel and adheres to the wound. "We are working with the body in order to close the wound," says Eliyahu-Gross. WoundClot creates a kind of reservoir that lets the blood's coagulants stay in the area and do their job. The gel remains stable for 24 to 36 hours but then breaks down rapidly and is absorbed into the body within seven days.

Israeli police have already begun using Wound-Clot, and CSC is in discussions with the U.S. Army about potential joint research. A burn unit in Sweden has used the product to control bleeding during skin graft procedures, Eliyahu-Gross says. Dr. Timothy Coakley, an emergency medicine physician for nearly 30 years, is now CSC's chief medical officer. He says the product works for open-heart surgery, dental procedures, stab wounds and a child's skinned knee. He used it to treat a woman on blood thinners who had injured her tongue eating crème brûlée. "Anywhere you have bleeding, you can use it," he says. "I've been looking for this for a long time."





DISRUPTIVE

THE CORE ISSUE

Apple's refusal to crack open an extremist's iPhone is a matter of principle and market share

WOULD YOU stop buying Apple's products if it decided to help the FBI open a terrorist's iPhone?

I thought not. Asking that today is like asking people in 1950 if they'd quit buying Lucky Strikes because cigarettes turn your lungs into tar pits.

Which is to say that Apple CEO Tim Cook, in his refusal to help the FBI break into iPhones, is ahead of most of the population. But maybe not all that far ahead. His very public stance might even turn out to be the smartest thing he's done for Apple since becoming CEO.

Give it a couple more years, and unwanted encroachments on your privacy will become the high-fructose corn syrup of technology. While consumers barely consider it now, a lot of folks in the tech industry think we'll soon be hyperaware of the long-term dangers of giving up our privacy. In fact, this may be the year electronic privacy turns into a competitive weapon, and Cook may have just kicked the trend into gear.

Of course, Cook has already reaped a boatload of publicity for saying Apple won't create a backdoor tool that would allow law enforcement officials to get at the information stored inside an iPhone used by one of the San Bernardino, California, shooters. The tech community has been swooning. Many turn to the same kind of slippery-slope argument the National Rifle Association deploys at the first whiff of gun control: If the feds are allowed a little access now to a crazed killer's phone that he

didn't even own (his employer owned it), next they'll be ransacking every citizen's digital files and arresting half the population for anti-government thoughts. Thank God, they say, Tim and Apple are around to say no.

The thing is, the most revealing stuff isn't usually locked inside our devices. The feds can glean way more from the digital remnants of all that killer's activity in the cloud: Google searches, WhatsApp messages, LinkedIn connections ("How do you know Abu Bakr al-Baghdadi?" "We've done business together"), calls made, locations navigated to, tweeters followed, songs Shazamed, websites visited. Every click and transaction is revealing and stored in some database, because the cloud is how we roll these days. Twenty years ago, investigators needed to snag a bad guy's hard drive to get anywhere. Now a person's intimate details are saved in company data centers.

We all give our privacy away every day, constantly, to a panoply of entities. I actually snorted a laugh when Facebook and Google proclaimed their support for Cook's position. Facebook and Google horde more data about us than any other commercial entities and make billions of dollars on it. Remember, their products are free; their core business is selling the details of our lives to advertisers.

At the moment, when most consumers say they're concerned about privacy, they're kidding



BY **KEVIN MANEY**@kmaney

THE FIRST BYTE: Surveys say the vast majority of Americans are

concerned about online privacy, yet

very few do anything about it. themselves. A recent survey by TRUSTe and the National Cyber Security Alliance found that 92 percent of respondents who use the Internet said they worry about online privacy, yet 89 percent do not avoid businesses they feel are not respecting their privacy. "As emotional a topic as tracking can be, few people change their online behavior because of it or even bother to read the legalistic-to-the-point-of-unfathomable privacy policies that sites post," noted Rami Essaid, CEO of security firm Distil Networks, in a blog post.

In other words, our anxieties about this stuff are completely disconnected from our actions.

And encroachments on our privacy are only going to get worse. Wearables like Fitbits, smart home devices like Nest, connected cars and Internet of Things sensors are all creating ever more data about ever more detailed and intimate aspects of our lives. Artificial intelligence software can stitch together different kinds of data to paint a ridiculously accurate picture of an individual.

In many ways, we welcome this—the better technology knows us, the better it can serve us. But at what point does the exploitation of our details turn from convenience into invasion? And don't we want control of that knob—to understand and decide what we're agreeing to share?

Cook is making us think about all that now. Do most people care much about this one case, this one phone? Not likely. But this fight is making us realize that we need to make some decisions, individually and as a society, about digital privacy before it gets away from us. A cynic might say Apple can afford to take this stand because it doesn't rely on selling advertising as a business model. But every company should take the public's interest in Apple's decision to heart. Privacy is rising to a new level of awareness.

Just before the Apple news broke, I was talking with veteran tech investor John Taysom, who is among those certain that companies are about to start to compete on privacy. He's putting his

THIS MAY BE THE YEAR ELECTRONIC PRIVACY TURNS INTO A COMPETITIVE WEAPON FOR TECH COMPANIES.

money into the trend. One of his investments, Privitar, is working on the hard problem of anonymizing user data while teasing out the bits that make a product or service useful to consumers and advertisers. Loads of other startups are leaping into the privacy-technology space.

Just as Tesla won big by making a car that's both a great product and good for the environment, Taysom predicts, digital companies will race to provide best-of-breed services while protecting and giving us control over our privacy. Companies that can do that will beat companies that can't.

Apple, so often on the forefront, seems to know this. The FBI said Cook's stand is a marketing ploy. In Cook's letter to customers, he snorted, "Absolutely not. Nothing could be further from the truth." He added, "This is and always has been about our customers. We feel strongly that if we were to do what the government has asked of us—to create a backdoor to our products—not only is it unlawful but it puts the vast majority of good and law-abiding citizens, who rely on iPhone to protect their most personal and important data, at risk."

So, really, Cook's position may not be a ploy. It could turn out to be brilliant marketing.





THE PLOT TO BEAT MEAT

In less than a decade, restaurants might be touting their best cuts of beef as lab-sourced, and not grass-fed

on January 31, the team behind a young biotech startup gathered around what may be the world's most expensive meatball and got ready to take a bite of their product—real, edible beef from a lab, not a cow—for the very first time. At \$18,000 a pound, the meat produced by Memphis Meats probably won't be on your table anytime soon. But in a few years, it might change the world.

The startup and its investors watched as a professional chef rolled the meatball, preparing it with "traditional Italian seasoning" and then dropped it into a sauté pan to sizzle.

The company's first choice for an independent taster canceled at the last minute, so Stephanie, a friend of a friend of an employee stepped in. In a video of the event, Stephanie is shown gamely poking the meatball, then taking a bite. "Tastes like meat. It's a meatball," she says, looking a bit confused, as if she might have missed the big reveal. "Can I have more?"

Nicholas Genovese, one of the company's founders, has been a vegetarian for years. When he first tried a morsel, he was smitten. "I really miss this," he said. Another of the Memphis Meats co-founders, Dr. Uma Valeti, a cardiologist, traces the idea for the company to a birthday party he went to when he was 12, growing up in India. "In the front, there was a lot of fun and dancing and eating," Valeti tells *Newsweek*. But then he walked into the backyard. "I actually saw the slaughtering of animals happening in

the back. To me, it was a very distinct moment: birthday, death day." Like the vast majority of those who are bothered by the ethical implications of eating animals, Valeti was troubled—but he kept eating meat.

Years later, Valeti found himself a physician in the world of biotech research, working on a potential therapy that could use stem cells to regenerate cardiac muscle after a heart attack, when he had an epiphany: "If you're regenerating heart muscle, why couldn't you use the same technique to make meat?" Valeti joined forces with Genovese and Will Clem, a tissue engineer whose family owns a chain of barbecue restaurants in meat-crazed Memphis, Tennessee. The trio was accepted by IndieBio, a "synthetic biology accelerator" with offices in San Francisco and Cork, Ireland, that tries to catapult biotech companies to market using the same financeplus-advice-and-connections model that Silicon Valley's Y Combinator has applied to get so many technology companies off the ground.

While the number of people on Earth who have eaten meat grown entirely in a lab is probably in the low double-digits, there are several companies and nonprofits trying to solve the problem of humankind's bloody urge for meat. A lot of big-name investors are eyeing lab-grown meat, or "cultured meat," as it's referred to in the field, not just as a solution for some of humankind's biggest problems but also as a profitable business.

BY
GRANT BURNINGHAM

granteb



GREAT BALLS
OF FIRE: This
Memphis Meats
lab-grown meatball
is prepared with
traditional Italian
seasoning, but at
\$18,000 a pound,
its meat may be
too hot for the
average eater.

Ninety percent of human diets include some kind of meat, and given the calories and nutrition packed into each bite of the stuff, it's hard to imagine the reward centers of our brains ever really shaking the rush that comes with smelling bacon. But meat is inordinately expensive for the planet. According to a study by Chatham House, livestock production is responsible for 14.5 percent of greenhouse gas emissions, making it a bigger contributor to global warming than all

the cars, trucks, planes and boats in the world. Meanwhile, clearing land to graze animals is a major contributor to deforestation. In just a single year, the expansion of soy farms (used primarily as cattle feed) in South America was responsible for clearing more than 4,500 square miles of rain forest. And the world's hunger for meat is only rising: Consumption is expected to nearly double by 2050. Even with advanced farming techniques, it's hard to imagine the

IN VITRO BURGER: Meat made in petri dishes, by knitting together protein strands cultured from cattle stem cells, could one day end up on menus.

+



Earth keeping up. Livestock now uses 30 percent of the surface of the planet, and 33 percent of farmland goes to producing feed, according to a 2007 United Nations report. And as water grows more and more scarce, it may be harder to justify the 450 gallons of water needed to produce the beef for each of your quarter pounders.

The answer to most of these concerns, for most of us, has been "but steak tastes good!" As long as it makes economic sense to eat meat from animals, the vast majority of us probably will. Valeti hopes his company can change that math. He says Memphis Meats could produce one calorie of lab-grown beef with just three calories of energy, a far cry from the 23 calories of feed-based energy required to produce each calorie of beef that comes from a cow.

The Memphis Meats meatball wasn't the first cultured meat the world has chewed on. In August 2013, a company called Mosa Meat in the Netherlands, headed by Maastricht University's Mark Post, served up the first burger made entirely from lab-grown cells. Its \$330,000 price tag was bankrolled by Google CEO Sergey Brin. That price, of course, isn't the end goal; Peter Verstrate, head of Mosa Meat, says the

company can already make meat that costs \$27 to \$45 per pound, and he expects to go in the market with a premium-priced product in five years; five years after that, he says, prices will be down to a level competitive to what we pay for beef now.

Lab-grown meat is "a very sexy subject," Verstrate tells Newsweek, and MosaMeat has made huge strides since the

demonstration just two and a half years ago. Tasters at the time praised the burger's "mouth feel" but noted it lacked a real *meaty* taste. That's because it was all grown with "25,000 individual small muscle fibers, and each of these fibers [was] made from hand in an individual petri dish," according to Verstrate. The meat had no fat and none of the metallic blood taste that normally marks a burger. Mosa Meat's newer products have, it says, addressed these gustatory issues.

Brooklyn-based Modern Meadow is also planning a move into lab-grown animal products. Although the company's early focus is leather, it sees tremendous potential not just in re-creating meat but also in rethinking what it could be—developing, perhaps, a lab-grown protein that is healthier and more delicious than even the best grass-fed beef. (Valeti has similar plans for



Memphis Meat, imagining a time when fats in their lab beef can be tweaked to reduce heart disease. For instance, a burger might be heavy in omega-3 oils normally found in fish instead of saturated fat.) Modern Meadow has reportedly attracted investment from Horizons Ventures, the Hong Kong-based firm of billionaire investor Li Ka-shing, and from the Thiel Foundation, funded by legendary tech investor Peter Thiel.

The competition doesn't faze Valeti. "We need to have about 1,000 cultured meat companies in the world," he says. "They're not our competition; our competition is the existing meat industry." Lab-grown meat may do more than disrupt agriculture. Cultured meat, for example, defies traditional religious dietary frameworks like halal and kosher. And it's hard to know what

A LAB-GROWN PROTEIN COULD BE HEALTHIER AND MORE DELICIOUS THAN EVEN THE BEST GRASS-FED BEEF.

these products will mean for those who consider themselves vegetarian. In 2008, the People for Ethical Treatment of Animals offered a \$1 million reward to the group that could produce meat in commercially viable quantities, and that started a near-civil war in the organization. The process of growing meat right now relies on fetal bovine serum, an expensive cocktail that comes from unborn cows, a hurdle that all producers will have to overcome to truly cut ties with the meat industry, but that breakthrough seems to be on the horizon.

Although cultured meat is cellularly identical to meat from a cow, Vestrate says there should be no conflict for those who have moral or philosophical qualms. "If you're a vegetarian principally for ethics, but you love meat, I don't see why you shouldn't skip to this product. No animal has to be killed, so why wouldn't you?"



CERTIFIED BY NATURE, OPEN FOR INVESTMENT

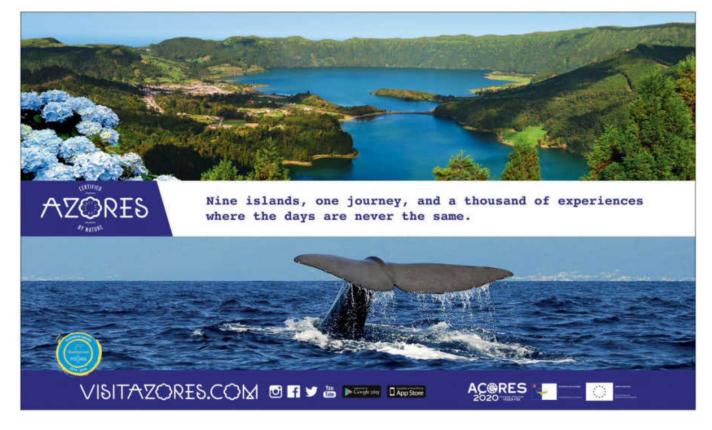
The archipelago surprises with its stunning tourism and diverse business opportunities

he ocean setting of the Portuguese islands is now attracting a new generation of traveler, from business people investing in maritime services and infrastructure, to marine biologists studying deep water species for medicines, or tourists in search of dramatic seascapes and green volcanic hills. For increasing numbers of visitors from Europe, North America and beyond, the Azores are reclaiming their central place on the world map.

This is above all a time of unprecedented economic opportunity for the islands, especially in the maritime transport sector. The expansion of the Panama Canal on the other side of the Atlantic will bring new traffic to the Azores and will require increased investment in marine services. The islands are also ideally positioned to capture the trade in Liquefied Natural Gas (LNG) between the US and Europe, and to refuel the increasing number of ships that are replacing oil with gas to power their oceanic voyages.

"We will exploit our geostrategic position to create new jobs in the Azores," Vasco Cordeiro, the President of the Regional Government of the Azores, says. "We believe the Azores could become an international service hub and we are planning to create a more favorable environment for private investment in the maritime services sector. We are willing to explore any project with investors in this sector, including public-private partnerships." For example, the regional government is backing the Costa project, which aims to turn Praia da Vitória Port into one of Europe's leading centers for maritime LNG.

Radical changes are also taking place in the air transport sector. To cut the cost of flying to the Azores, the government has negotiated with Lisbon a new air transport agreement, opening up the archipelago to low cost carriers from overseas. Irish carrier Ryanair has invested \$100 million in opening a new base in Ponta Delgada, with daily flights to and from Lisbon and



Oporto, and weekly flights to and from London, while the UK's Easyjet has also entered the market. Visitors rose by 20% last year. There has been a surge in the number of international flights to the Azores, including flights from major tourism markets including not only the UK, Germany, Spain and the Netherlands but also from Canada and the US. Foreign tourists are arriving not only in greater volumes, but also with higher purchasing power in their pockets thanks to the lower cost of air transport.

Vitor Fraga, Regional Secretary for Tourism and Transport, says that the regional government has invested heavily in attracting more tourists from North America in particular. In the summer, there are now five five-hour flights a week to and from Boston, operated by Azores Airlines. At the same time as increasing flight capacity, the government has also introduced new training programs to enhance the quality of services provided to tourists and to win repeat customers.

For the increasing numbers of foreign travelers who come to the Azores, the islands' biggest draw is their unique environment. Probably Europe's leading destination for whale watching, the Azores also offer world-class scuba diving (with or without sharks), canyoning, hiking and bicycling, as well as warm water beaches, hot springs, golf courses and a regional cuisine that is rich in seafood and spices. Fraga says that investment in new products has helped reduce the seasonality of tourism in the islands, with new golf courses and mountain bike trails transforming the Azores into a year-round destination. "Our main asset is the environment and our main objective in tourism is environmental sustainability," he says. "We truly cherish our natural resources."

Preserving and managing the environment sustainably is a key priority in President Cordeiro's strategy for the entire economy, not only for the tourism sector. As the islands' new brand says – the Azores, certified by nature – it is the archipelago's environment and natural characteristics that differentiate its dairy products, beef, fish, wood and wine, as well as its appeal to tourists. "We make exclusive, high quality products, in a place where we have managed to achieve a balance between economic development and



environmental protection," Cordeiro says. "Our environment is essential to our tourism industry and to our economic growth."

To help preserve the environment, the government is supporting a shift to clean power; by 2020, more than half of electricity will be generated from renewable technologies such as wind turbines and geothermal power plants. The island of Pico is even home to one of Europe's only wave energy plants, supplying clean electricity to the local grid.

The islands are also at the forefront of marine science, especially in the new frontiers of aquaculture and marine biotechnology or 'blue biotechnology.' Helder Silva, President of the Institute of Marine Research at the University of the Azores, says that blue biotechnology could help develop innovative pharmaceuticals, medicines and industrial enzymes that can withstand extreme conditions. Because of the archipelago's easy access to the deep sea, the Azores are evolving into an international hub for this fast-growing sector. "We intend to use the waters that surround us to create more wealth and new jobs," President Cordeiro says. "Our challenge now is to work hand-in-hand with the private sector to transform our knowledge and our natural resources into job creation."





DOWNTIME

SURFING DIVING

SWIMMING

BEACHES



WILD SWIMMER Kate Rew will plunge into just about any body of water that isn't chlorinated. Surfer Alex Wade tailors his family vacations around surfing. And

travel editor, will dive under the surface to explore marine life in any warm corner of the oceans. He's also spent a lot of time exploring the world's most magical beaches. Rew, Wade and Boynton make

ideal guides to the rivers, lakes, natural pools and coastal waters that lure so many of us during the hottest months of the year.

But like these writers, most of us don't head for the water just to cool down on a summer's day; we also seek it out because it offers us all kinds of freedom and





WAVE. HELLO!

The sea is not just for swimming. Grab a surfboard, and the ocean becomes your personal roller coaster

YOU NEVER forget your first wave. Not your first whitewater wave, but your first ride along the face of a green-blue, unbroken and peeling wave. The first wave you *truly surf*. Everything changes. You just want that feeling—of freedom, speed, excitement and grace, somehow all at once—again and again.

The first wave I surfed properly was at Saunton Sands, a beach on the North Devon coast in England, when I was 18 years old. I grew up in Exmouth, on Devon's south coast, where surfable waves were hard to come by. I windsurfed and rode my skateboard, but I felt myself drawn to what seemed to be the best of all the board sports—surfing. As soon as my friends and I could drive, we would regularly head up to North Devon and try to master what, at least for Hawaiians, has always been the sport of kings.

We would paddle out at Saunton Sands and the area's other well-known surf breaks: Putsborough, Woolacombe and, the best of all them, Croyde Bay. We just wanted to learn to surf; we didn't care if it was a freezing winter's day or high summer—though the latter was certainly preferable. After all, surfing's most iconic film is Bruce Brown's *The Endless Summer*, in which two surfers follow the warm weather around the world, doing nothing really, except surf. The movie remains most surfers' dream, a point of reference to help measure how far away they are from the life they would most like to lead. The

summer after I turned 18, I jumped to my feet, angled my board to the right of a perfectly peeling chest-high wave and sped along its face. The sheer joy was like nothing else on Earth.

Many years later, John McCarthy, a renowned Irish big wave surfer, summed up the appeal of the sport to me. "Surfing is the most blissful experience you can have on this planet," he told me. "It's a taste of heaven."

Without buying into cosmic clichés—well, not too much—McCarthy is right. I'm turning 50, and a lot has happened in the 32 years since I first rode a wave. I've worked in London and missed the ocean every day I did; I've exasperated partners by insisting that every vacation had to be somewhere with decent surf; I've given up the rat race to live minutes from the sea in the far west of Cornwall, England. And I've lived the dream, surfing every swell that came in, organizing my life around the tides, wind and waves.

It's not all been good. I've seen the rise of localism, where Neanderthal fools believe that only *they* have a right to surf *their* breaks, and the spread of surfing's all-pervasive commercialism. (Take a trip to the casinos of Las Vegas: Surfing imagery is as prevalent there as diamonds and fast cars.) And I've had some bad injuries, including broken ribs and one that left me needing neck surgery.

Broken bones, worn joints, the changes middle



BY
ALEX WADE

@SurfNation



THE WATER'S FINE: Surfers bask in the swells off of Pleasure Point near Santa Cruz, California. The point has good surf 320 days of the year.

age bring-all these things have made me adopt a more mellow approach, only surfing when the conditions are just right. But here's the thing: Even now, after a good session, I can't stop thinking of the last wave I rode. After all these years, that feeling still makes me want to paddle back out for more. So that's what I do-because you

never forget your first wave, and your last one takes you right back to where it all began.

Not convinced? Try surfing—or even just

watching it—at any of these world-class breaks.

THE SOUP BOWL, BARBADOS

Near the village of Bathsheba, on the east coast



GOLDEN HOUR: People dive off a raft into the twilight surf in Chicama, Peru-home of what's believed to be the world's longest wave.



of Barbados, is an experts-only reef break known as the Soup Bowl, rated as one of the best by 11-time world champion Kelly Slater. At the age of 20, Florida-born Slater became the youngest professional surfer ever to win the world title. (At 39, he won it again, becoming the oldest world champion.) So when Slater rates a surf spot as good, it's going to be something special. Down the coast at Surfer's Point is a perfect wave for beginner or intermediate surfers. Ask for the charismatic Zed Layson, a Bajan who runs the show there, and he will have you up and riding in no time. Oh, and the water temperature is 77 degrees Fahrenheit all year.

PLEASURE POINT, CALIFORNIA

Santa Cruz has many fantastic surf breaks, but Pleasure Point may top them all. With good surf rolling in 320 days a year, this right-hand point break offers a number of different peaks. Nearby Steamer Lane is the home of the famous O'Neill Coldwater Classic contest. The cliffs above Santa Cruz's breaks make them great for surf watching.

LA SANTA, LANZAROTE

Once dubbed "Lanzagrotty," the Canary Island of Lanzarote off the west coast of Africa has undergone a makeover in recent years, becoming an eco and sports haven. Europe's first underwater museum, the Museo Atlantico—featuring remarkable work by British sculptor Jason deCaires Taylor—opened in February. But for all the changes, one thing has stayed the same: the surf. It's not for nothing that Lanzarote is known as "the Hawaii of the Atlantic." The powerful right-hand reef break at La Santa is a classic, while there's also an ultra-heavy left-hand slab. Neither are for beginners, however—and watch out for the sea urchins (they're everywhere).

BANZAI PIPELINE. HAWAII

This wave on Oahu's North Shore is still the surfer's mecca, a proving ground for elite surfers from all over the world. It's a photogenic wave—fast, hollow and crystalline—but also deadly. More people have been injured or killed surfing Pipeline than at any other surf spot. It's definitely not for amateurs, but if you fall into the expert category, Pipeline is where reputations and memories are made. If not, you can watch the action from right on the beach.

J-BAY, SOUTH AFRICA

Jeffreys Bay, in South Africa's Eastern Cape province, has a legendary wave named after the town: J-Bay. The fast right-hand point break



offers tubular heaven, but there's just one problem: sharks. J-Bay is where Australian surfer Mick Fanning, three-time world champion, was waiting for a wave in a contest last year when a shark attacked him. But you could learn a trick or two from him: Fanning punched the shark and survived unscathed.

CHICAMA. PERU

The average surfer rarely needs to complain of tired legs—the typical surf ride lasts for 10 to 20

"SURFING IS THE MOST BLISSFUL EXPERIENCE YOU CAN HAVE ON THIS PLANET. IT'S A TASTE OF HEAVEN."

seconds. But the Peruvian left-hand point break of Chicama, situated halfway between Lima and Peru's border with Ecuador, is believed to be the world's longest wave: You can surf for 4 minutes here—and leg cramps are a concern. Once deserted, Chicama now draws crowds from around the world. The upside is that this remote surfing outpost now has plenty of accommodations, from budget to luxury.

THE GOLD COAST, AUSTRALIA

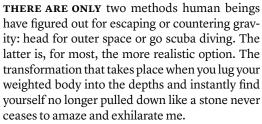
With awesome waves such as Kirra and Burleigh Heads along the Gold Coast, it's easy to see why Australia has produced more surfing world champions than any other nation. A suburb of the city of Gold Coast is even called Surfer's Paradise. Crowds aside, surfers of all abilities can find somewhere to surf here.

ALEX WADE (AlexWade.com) is the author of *Surf Nation* and *Amazing Surfing Stories*. He is currently working on a biography of Russell Winter, the U.K.'s most successful surfer.



SCUBA DO

The best way to see the oceans? Scuba diving, although snorkeling is a close second



But you don't have to be a diver certified by the Professional Association of Diving Instructors to get close to that same feeling of floating. Just grab a mask, a snorkel and maybe a pair of flippers, and you'll be able to meander along the surface of the water for as long as you want. Here's a selection of some of the best sites for snorkeling and diving.

SNORKELING

GREAT BARRIER REEF. AUSTRALIA

Regarded by many as the greatest snorkeling destination in the world, this UNESCO World Heritage Site stretches for 1,430 miles along the Queensland coast—from Bundaberg to the Torres Strait—and is the world's largest protected marine area. It supports more than 400 types of coral and 1,500 species of fish. In some places, it's possible to snorkel from an island resort; in other areas, you'll have to travel by boat to your snorkeling destination. You can make a day trip from the mainland on a high-speed catamaran or spend a few days on one of the islands (Liz-

ard Island, Bedarra Island, Orpheus Island and Hayman Island) and enjoy the snorkeling that all the luxury resorts there offer.

THE SEYCHELLES

The Seychelles archipelago comprises more than 115 islands; many are uninhabited, and most are surrounded by clear waters, coral reefs and flourishing marine life. The best sites are accessible by boat, and the two largest islands, Mahé and Praslin, are perfect jumping-off points. Mahé's St. Anne National Marine Park is the Indian Ocean's oldest protected marine park. It encompasses six islands and is easily accessible by boat. Curieuse Island, a mile and a half off Praslin, is also a national marine park and is known for its huge schools of vibrantly colored humphead parrotfish. At Channel Rocks, midway between Praslin and La Digue, snorkelers can see long-tailed eagle rays and slow-moving whale sharks.

FIJI ISLANDS

A cluster of more than 300 islands in turquoise waters makes Fiji one of the world's most popular snorkeling destinations. The columns of coral here—Australian divers call them *bommies*—are home to starfish, mantas, reef sharks, more than 30 species of butterflyfish and angelfish, and giant clams that measure a yard wide. For the most brilliantly colored soft corals,



BY
GRAHAM BOYNTON

BoyntonTravels



THE DEEP DARK:
Diving in the Blue
Hole located in
Egypt's Red Sea is
a thrilling experience, but it can
also be a dangerous one—the area
is nicknamed "Diver's Cemetery" for
the way some get
trapped there.

head for Somosomo Strait, where you'll find the vibrant Rainbow Reef, a palette of orange, pink and lavender coral. Or head for Namena Marine Reserve for equally vivid sea creatures, such as neon blue ribbon eels swimming among turtles and tiger sharks. The best time to visit is from July to September, when the waters are clearest.

SCUBA DIVING

THE MALDIVES

The best—and priciest—way to scuba dive in the Maldives is to go all-in and pay for a dedicated live-aboard boat that will guarantee you'll get up to four dives a day at different sites. This is bespoke diving at its best. The North Male and South Ari atolls provide good diving around the atoll walls with all manner of sharks, turtles and schools of game fish, as well as colorful tropical fish. The luxurious Four Seasons Explorer offers three-, four- and seven-night cruises. A weeklong trip aboard the less cushy MV Sea Spirit starts around \$2,200, including airfare.

SIPADAN ISLAND, MALAYSIA

Divers who have not been to Sipadan dream of going there. Divers who have been there yearn to go back. The waters off this 40-acre island south of the Malaysian port of Semporna are home more than 3,000 species of fish and hundreds of coral species growing on top of an extinct volcanic cone. A vast under-

sea wall plunges 600 yards down just off the island's shore. Diving over that drop-off is truly thrilling—and a little scary. It can get happily crowded here: There are so many species that one diver I met joked that he could barely see the coral for the fish.

BLOODY BAY MARINE PARK, LITTLE CAYMAN

Although many of the Caribbean's dive sites are not what they were 25 years ago, after being damaged by overdevelopment on the coastline and overfishing, Little Cayman remains a gem. On its northern shore, Bloody Bay Marine Park has two spectacular dive sites. Bloody Bay Wall is a sheer coral cliff that plunges 2,000 yards down into the sea. On the face of the wall are coral gardens that sway as the currents move. It's a humbling sight.

THE RED SEA, EGYPT

The Red Sea is great for diving because of its ease of access and the amazing visibility underwater. Sharm el-Sheikh offers outstanding wreck diving; nearby Ras Mohammed National Park offers great wall dives with incredible coral formations; and Hurghada is also popular, as its conditions are perfect for learners, and there are easily accessible wrecks to explore. The most famous site in the Red Sea is the Dahab Blue Hole farther north. Rated by TripAdvisor

DIVING OVER THE DROP-OFF IS TRULY THRILLING—AND A LITTLE SCARY.

as one of the world's best diving sites, it also has a reputation for being one of the most dangerous, nicknamed the "Diver's Cemetery." Divers trying to find a tunnel through the reef have sometimes ended up suffering nitrogen narcosis after descending too far beyond the diving limit. The Egyptian Chamber for Diving and Watersports keeps a police officer stationed at the Blue Hole to make sure that a certified guide enforces safety procedures. Diving might not be the only source of danger in the Red Sea; the region has been targeted by Islamist militants in recent months. The British government has advised its citizens to fly to Sharm el-Sheikh only when travel is "essential."



TAKE A SWIM ON THE WILD SIDE

On your summer break, ignore all the sanitized swimming pools and plunge into a river, lake or the sea

OVER THE PAST decade, swimmers around the world have been turning their backs on dull swimming pools in favor of the planet's almost limitless natural swimming spots. Just as surfers crisscrossed the globe in the 1970s in search of the best breaks, swimmers are now on the move, traveling the world to find new places in which to dive.

The experience of swimming outdoors was what drove the revolution in the beginning: the rediscovery of what it felt like to be in a river, or lake, or sea; how immersion managed to make you feel calm and energized at the same time. Swimmers often talk about how they find their "still point" through water, how it shocks them

KATE REW



DEEP BREATH:
Swimmers compete in the 27th
annual Bosporous
Cross Continental
Swim, organized
by the Turkish
Olympic Committee, in Istanbul on
July 26.

back to life. They say swimming helps them find their "tribe," forging deep connections to other swimmers and to the landscape that surrounds them when they are swimming.

The opportunity to enjoy new parts of the natural world is what most thrills many people in the wild swimming community. Whether it's a river pool just a few miles from your house, or a wadi in Oman, water allows ordinary people to discover something new. There are rivers to swim down, seas to cross, and remote mountain lakes to catalog. You can dip into ice holes, paddle in river pools and waterfalls and escape into the bright turquoise underworld of cenotes.

It's a bit of a shame that the term wild swimming even exists. This is an activity, after all, almost as old as humanity itself. I hope the wild will be dropped in time. Let's make "pool swimmers" the outliers. Here are some the best outdoor swimming spots to inspire you to join the revolution.

THE DART ESTUARY, DEVON, ENGLAND

Downstream swims don't come much more spectacular than the River Dart in Devon, England. It's one of the most iconic British

swims: Flanked by old oaks and rolling hills, the Outdoor Swimming Society Dart 10K is an education in water and landscape. The 10K course—just over 6 miles—is an endurance test, perhaps the swimmer's equivalent to a marathon. The route begins narrow and the water there is relatively fresh; it becomes more brackish as the river widens and the closer swimmers get to the coast. The course is marked out by natural mark-

ers: a cormorant tree, the Sharpham Bends, the entrance to a huge creek. As they progress downstream together, swimmers become more like a community rather than competitors. The Outdoor Swimming Society has even invented its own collective noun to suit the experience: a contentment of swimmers.

BOSPORUS CROSS CONTINENTAL SWIM, ISTANBUL

Once a year, almost 2,000 people take to the waters of the Bosporus—a sea strait that runs through the center of Istanbul and usually operates as a major shipping channel—for an annual swimming race. Every July since 1988, the city has opened up the strait for the Bosporus Cross Continental Swim, which begins on the Asian side of Istanbul and finishes on the European



side. Huge tankers are held up on either side of the 4-mile course to allow the race to proceed. The water itself is clear and fast. Take all the advice you can get from other swimmers about avoiding eddies (swirling currents) around an island in the middle, and when to start heading toward the finish line to avoid being swept right past it by the powerful current. But seeing as you swim under two of Istanbul's huge landmark bridges, remember to take a minute to simply enjoy the view.

SELJAVALLALAUG POOL, ICELAND

Iceland is a swimmer's paradise—full of hot pots and pools that make use of the island's geothermal energy, offering warm swims in a cold climate. You can swim in hot rivers, whizz down water

YOU CAN DIP INTO ICE HOLES, PADDLE IN RIVER POOLS AND ESCAPE INTO THE BRIGHT TURQUOISE UNDERWORLD.

slides and dip in hot pots that are signposted on highways everywhere. Most hot pots are free (and have changing shelters to protect you from the icy winds), though they can vary from purpose-built pools to repurposed cheese tubs.

One of my favorite swims is Iceland's oldest swimming pool: a 92-by-32-foot pool hidden in the Seljavellir valley in the south of the country. Filled with hot spring water, the pool was constructed in 1923 to teach Icelanders how to swim. It occupies possibly the most stunning location of any swimming pool on Earth: On one side is a rocky cliff wall, while the other side leads down into the river valley. It takes about 10 to 40 minutes to walk there from a parking spot at the end of a gravel road, and you can hop between rocks all along the Laugara river's black sand beaches. It is a peaceful, joyful,



open place, and when the sun shines, the water becomes the color of fresh spring grass. Above are snowcapped mountains and a meltwater river falling down a gully in stages. There are no lifeguards and no rules—except, perhaps, be friendly to other bathers and take away all of your own litter (and perhaps anyone else's, if you spot it).

FINGER LAKES, NEW YORK

Lush vineyards, warm summers, bald eagles, epic sunrises, hiking and cycle paths: the Finger Lakes of upstate New York offer a myriad of pleasures before you even get to the swimming, but the lakes here scream, "Swim me!" And pontoons, inland beaches and change houses welcome families. My ideal trip would be to rent a house with a private dock, maybe even a spare kayak, on Seneca or Cayuga, for swimming adventures. Try AirBnB or FlipKey for properties.

CENOTES, YUCATÁN, MEXICO

In the Yucatan area of southeastern Mexico, rivers are sometimes swallowed whole. The limestone bedrock is so porous that the rock collapses, exposing groundwater pools, known as *cenotes*. These pools were considered holy in ancient Mayan culture and were often used for sacrificial offerings. Filtered naturally by the surrounding rock, the water is left cool and clear.

If you have been lucky enough to stumble upon a cenote, you will know that they are one of nature's most wonderful surprises: Above ground lies jungle scrub, dirt and dust; beneath, a bright blue subterranean world, with tree roots acting as rope swings and ladders. Floating on your back looking up at the sky, the view framed by hanging vines and giant tropical trees, is likely to be the high point of any trip to the Yucátan—though the region's tequila isn't bad either.

Twenty-five years after my first random cenote encounter, I long to go back to make a map. These days, cenotes are often signposted, with walkways and within eco-parks. Some swimmers and divers venture into cave systems with headlights and torches. On my list to

visit: Cenote Azul, Cenote Dzitnup, Cenote Dos Ojos, Cenote Sac Actun and Cenote Yokdzonot. Go clean and freshly washed—deodorant and sunscreen hurt the biota—and aim for early in the morning before the crowds arrive.

WADIS, OMAN

In the deserts of Oman, you can sometimes come across a striking oasis: green-blue water amid golden gullies. Wadis (the Arabic word for "valley") are usually dry but can contain water in the rainy season. Some are even fed all year round by natural springs. About a 40-minute hike from Muscat, Oman's capital, is Wadi Shab, a popular place for a swim and barbecue. Start by wading through the pools at the bottom of towering rock stacks until you reach what appears to be an impenetrable wall of rock. Closer inspection will reveal a crack to swim through; on the other side is a water-filled cave with a waterfall. "If you're lucky, you'll catch the sun filtering through the roof and the rainbow it creates," says one swimmer. Other wadis that offer a place for a discreet swim: Wadi Damm, Bimmah Sinkhole and Wadi Hawasinah. At Wadi Bani Khalid, which is fed by a natural spring, there are picnic spots and coffee shops. Two warnings: Wadis are prone to flash floods, which can prove fatal; and it is customary in Oman to swim in a T-shirt and shorts.

ICE HOLES, LAPLAND, FINLAND

An ice swimming craze is sweeping the U.K., South Africa and the U.S., and alongside it, an international chain of ice swimming galas has flourished. But the idea of making a hole in the

THE NEW YORK FINGER LAKES SCREAM, "SWIM ME!"

thick ice of a lake—simply because getting in will make you feel wonderful—is not news in Finland, Siberia, Sweden, China or many other Baltic and Nordic countries.

Finland makes my bucket list of places to swim, because there are so many lakes that during the summer months you can practically swim across the country. You can also stay in Finnish summer houses on a tiny island. In winter, however, the real fun begins. Saunas tend to be found next to ice holes, allowing the dipper to heat up and cool

HOT AND COLD: Iceland's pools, like Seljavallalaug, use geothermal energy. Warm water in cool climates make the country a swimmer's paradise.



down—all in a controlled environment. The combination of frozen lake, epic snowy landscape, ice hole and smoke sauna are unbeatable—and in Lapland, the northernmost region of Finland, the chances of glimpsing the Northern Lights add an extra thrill. Most ice holes are maintained by local clubs so tourists can't always get access. But as more tourists start to visit Finland in the hope of doing a little ice swimming, the country is opening up more and more locations. In the

meantime, the Fell Centre Kiilopää near the village of Saariselkä in northern Finland has hotel rooms and cabins that allow you to enjoy river swimming and smoke saunas in style.

KATE REW is the author of *Wild Swim*, a book about swimming around the U.K., and founder of the Outdoor Swimming Society, a worldwide collective of swimmers. She also founded WildSwim.com, a crowd-sourced map with over 1000 swims on it from Mongolia to Mexico.



PEACE, SAND, QUIET

Get some sunshine and rest on these remarkable beaches

WHEN SUMMER comes, many flat and largely unvisited stretches of sand all over the world fill up. Some people love those crowds; for them, the beach is like a nightclub. Others—and that includes me—prefer a little more space. Whatever your preference, the beach is the ultimate place for doing absolutely nothing. So if you need a wonderful spot to do little more than listen to the waves and maybe read a book, here is a selection of some of the best bits of sandy coastline in the world.

HARBOUR ISLAND, BAHAMAS

A long, deep beach runs for the entire 3 miles of Harbour Island's eastern shore on the Atlantic Ocean. The locals call it North Beach, but internationally it is known as Pink Sands, because of the sand's luminous salmon color, the result of centuries of powdered coral deposits from offshore reefs. Add the clear turquoise of the ocean, and you have a scene that is idyllic. It is frequented by international celebrities, including Uma Thurman, Harrison Ford, Diane von Fürstenberg, Mick Jagger and Robert De Niro. But it's also loved by honeymoon couples and ordinary travelers seeking beauty in isolation.

WHITEHAVEN, WHITSUNDAY ISLAND, AUSTRALIA

With a 16,000-mile coastline (the sixth longest in the world) and a comparatively small population of just under 24 million, Australia has countless candidates for the best uncrowded beach

award. But Whitehaven Beach, a 4-mile stretch along Whitsunday Island off the coast of central Queensland, is mind-blowingly lovely. Backed by tropical forest and lapped by warm water, the beach's brilliant white sand is almost 100 percent pure silica—which does not retain heat, and so remains comfortable to walk on barefoot at any time of day. Camping is the only way to stay: Watching the day-cruiser crowds head back to the mainland is a pleasure exceeded only by the joy of waking up after a night under canvas and having the beach all to yourself.

IPANEMA, RIO DE JANEIRO

Not all great beaches are isolated and difficult to reach. In Rio, the sand starts just yards from residential and commercial streets. Cleaner, safer and less crowded than Copacabana Beach, Ipanema—which stretches for just over a mile—has the most sophisticated visitors of the city's 22 beaches. (It runs alongside one of Rio's more affluent neighborhoods.) Beachgoers currently favor Posto 5, the area at the bottom of Rua Vinicius de Moraes (the lifeguard posts demarcate each stretch of beach). This is the local beach for the Hotel Fasano, designed by Philippe Starck and the sister hotel to the family-owned Fasano in Sao Paulo.

ANGUILLA

The small island of Anguilla has one of the Caribbean's most beautiful collections of beaches, with over 12 miles of clean, soft, deserted sands in



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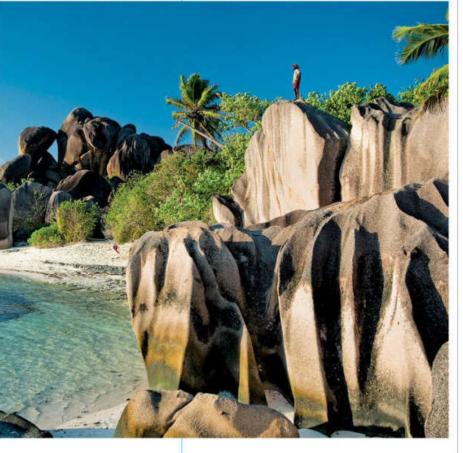
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secluded coves, broad bays and under coral cliffs. Barnes Beach is one of the most alluring stretches to sink your toes and is a wonderful spot for watching the Caribbean sunset. Still, with 32 others on the island, it's a tough call. The great, glorious Mead's Bay has been named No. 1 on the island by TripAdvisor. Shoal Bay East has the best mix of beach bars and restaurants, while Shoal Bay West is one of the quietest stretches of sand. Little Bay has the best snorkeling, Upper Shoal Bay the whitest sand, and Rendezvous, with its two and a half miles of unbroken sand, is the best for walking.

LONG BEACH, PHI PHI ISLANDS, THAILAND

By 10 a.m., the first motorboat taxis are arriving on little Phi Phi Leh, off the larger island of Koh Phi Phi, and by 11 a.m. Maya Beach, in the famous cliff-wrapped cove, is densely lined with taxis, all drawn up on the sand. Anyone who wants to see the setting for *The Beach*, the movie version of the Alex Garland novel starring Leonardo DiCaprio, in peace has to be there well before

PARADISOLATED: A man overlooks Anse Source d'Argent on La Digue in the Seychelles, at its best (and quietest) early in the day or in the late afternoon.



10 a.m. or after 4 p.m., when the selfie-snapping hordes have left. In the meantime, the great soft sweep of Long Beach—a 15-minute longboat ride from Koh Phi Phi's village Ton Sai—is the place to hang out. Not quite Garland's empty Eden, it has beach restaurants set up in the shade of the jungle vegetation and *salas* where you can get an hour's massage for about \$3. But close.

ANSE SOURCE D'ARGENT, LA DIGUE, SEYCHELLES

Little La Digue has the most beautiful beaches in the whole of the Seychelles, but Anse Source d'Argent might be the best of them all. Huge granite boulders with lush vegetation growing between them provide useful shade on this little curve of soft, white sand. From there, step into a shallow, warm, gin-clear ocean that under a cloudless sky is a dazzling turquoise color. Wade out for the best views, and you won't be knee deep in the water before brightly colored tropical fish are darting around your legs. Anse Source d'Argent is at its best early in the day—by 11 a.m. the beach can sometimes fill up with others who have made the 15-minute cycling trip from the jetty—or in the late afternoon.

CAMPS BAY, CAPE TOWN, SOUTH AFRICA

South Africa's coastline runs for more than 1,700 miles, much of it splendid white sand beaches. There are more pristine, more beautiful and less populated beaches in the country than Camps Bay. But it deserves a spot on the list because of its accessibility and its setting—

SOUTH AFRICA'S COAST-LINE RUNS FOR MORE THAN 1,700 MILES, MUCH OF IT SPLENDID WHITE SAND BEACHES.

located just a few miles from Cape Town city center, the backdrop is a dramatic mountain range known as the Twelve Apostles. On weekends, the beach is often crowded. Carousing locals pack the restaurants and wine bars that run along the main Camps Bay road. OK, so maybe it's not the quiet stretch of coastline that many burned-out vacationers are seeking—but sometimes, even for those of us who love empty sands, the beach is for partying.

REWIND



MARCH 11, 1996

QUOTING STEVEN SPIELBERG IN "BLOCKING THE BOX" BY RICK MARIN, TALKING ABOUT RATING VIOLENCE IN CARTOONS LIKE *THE ANIMANIACS*, WHICH SPIELBERG PRODUCED

We put dynamite in a charac-

ter's pants. I don't want to lose the right to blow up someone's butt."

